NUS | Computing
National University of Singapore

NUS School of Computing Summer Workshop 2024

NUS

Century-Old Institution

Founded in 1905, the National University of Singapore (NUS) is the oldest higher education institution in Singapore.

Top Research University

NUS is consistently ranked as one of the top 20 universities in the world and is ranked 1st in the Asia-Pacific region by QS World University Rankings 2022.

A Cultural Melting Pot

As the 8th most international university* in the world, NUS has a total of 17 faculties and schools, 11 overseas colleges, 30 university-level research institutes and centres, with more than 40,000 students from over 100 countries.

*Cited from Times Higher Education The World's Most International Universities 2022

SCHOOL OF COMPUTING

Department of Computer Science
Department of Information Systems & Analytics

250 Academic & Teaching Staff
220 Research Staff
180 Admin & Technical Staff

5,000+ Undergraduates
1,300+ Graduate students
900+ Masters students, 400+ PhD students

SCHOOL RANKINGS

TOP ASIAN UNIVERSITY FOR COMPUTING

QS WORLD UNIVERSITY RANKINGS®

Computer Science and Information Systems

1st IN ASIA

6th IN THE WORLD

1 PROGRAMME STRUCTURE

PROGRAMME HIGHLIGHTS

ABUNDANT CHOICES

Wide range of subjects offered across **3 clusters** with **15 unique courses** in total to build your knowledge in high-demand IT fields.

NUS ACCOUNT

Each participant will receive an NUS account to access the **learning platforms used by NUS** such as Canvas & Zoom during the workshop.

PROJECT COMPETITION

A project competition at the end of the workshop to showcase your computing skills through **intensive hands-on project** supervised by our esteemed professors.

CERTIFICATE

Certificate greatly advantageous for future career and further studies

NGNE PROGRAMME

Become eligible to apply for the **SOC NGNE Programme** which offers a chance for early admission to the **Master of Computing/PhD** programme

INTERNSHIP

opportunities available to participants of the Summer Workshop on a competitive basis

WHAT YOU WILL RECEIVE

Upon successful completion of the workshop, **each participant** will receive:

Completion Certificate

To certify that you have completed the NUS SOC Summer Workshop satisfactorily

Performance Slip

To indicate your performance throughout the Summer Workshop in a letter grade

Souvenir T-shirt

An actual T-shirt specially designed for our Summer Workshop participants

EZ-Link Card

An EZ-Link Card (Singapore public transport card) with stored value and a unique Summer Workshop design

Winning project teams will receive:

Award Certificate

To highlight your project achievement

Attractive Prizes

Mysterious gifts to be awarded to winning project teams in the final showcase on the last day of the workshop


NUS | Computing

School of Computing
13 Computing Drive, Singapore 117417

6 August 2021

[redacted]
University

Dear [redacted]

Congratulations on your successful completion of SOC Summer Workshop 2021 (8 May – 28 July) organised by the School of Computing, National University of Singapore!

Your performance in the topic you participated in (with total effort equivalent to that of a course in a regular semester in our School), evaluated based on assignments, quiz, and project, is as follows:

Topic	Performance
Big Data Analytics and Visualization	A

Interpretation of Performance

A+	A	A-	B+	B	B-	C+	C	C-	F
Excellent			Good			Pass			Fail

Yours Sincerely,

Tan Tiow Seng (PhD)
Director
Office of International Education Programmes

SAMPLE


NUS | School of Computing

Certificate of Completion

This certificate is presented to

for successfully completing the
NUS School of Computing Summer Workshop 2021
held from 8 May to 28 July 2021, studying topics in
AI & Media

Tan Tiow Seng, PhD
Program Director

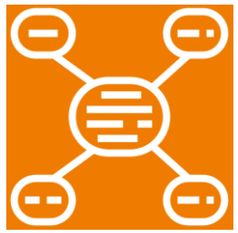
Date

SAMPLE

PROGRAMME PHASES

PHASE 1(online)

12 May, 19 May, 26 May 2024



- Enroll in 1 CLUSTER out of 3 available clusters
- Attend lectures of ALL THE COURSES WITHIN YOUR CLUSTER to acquire broad-based knowledge across the field
- Strengthen your knowledge acquired by completing fun assignments and quizzes

PHASE 2 (face-to-face)

29 June - 22 July 2024

- Narrow down to 1 COURSE for further exploration
- ADVANCED SEMINARS digging deeper into your course content
- PROJECT DEVELOPMENT under the supervision of course instructor
- SHOWCASE and project competition

TIMELINE

1

APPLICATION
26 Feb – 10 Apr

Submit application via the online application system before **10 April 2024**. Once you have submitted the application form, an application account will be created for you. Log in using the account details sent to your email address and upload the documents required to complete your application.

2

RECEIVE OUTCOME
Mar – Apr

Applicants will be informed of the outcome or subsequent steps required (if application materials / information are incomplete) within 1 week after submitting an application.

3

FEE PAYMENT
Mar – Apr

If you are given an offer, you will be required to pay the programme fee **within 1 week from the date of offer** to secure a place in the cluster assigned to you.

4

NUS ACCOUNT
End Apr – Early May

You will receive your NUS account details via email around the end of April or early May. Please follow the instructions in the email to activate your NUS account and try logging into the various NUS platforms to ensure that your account is working well before the workshop begins.

5

PHASE 1
12 May, 19 May, 26 May

Attend real-time **online introductory lectures** of all the courses in your cluster via Zoom to have a sense of what you will be getting in each course. **Lectures will be conducted on Sundays (12 May, 19 May & 26 May)**. Expect some assignments and quizzes at this stage.

6

COURSE SELECTION
26 May – 30 May 10am

Upon completion of Phase 1, you will proceed to **submit your course preference by 30 May 2024, 10am**. This will determine the final project topic which you will be exploring in depth in Phase 2. Course selection outcomes will be announced through email by 1 June 2024.

7

PHASE 2 – PROJECT WORK
1 Jul – 19 Jul

In Phase 2, you will be coming to NUS School of Computing to join us in an exciting **on-campus** learning experience. By now, you are assigned to a single course, and you will be focusing on this topic by **attending advanced seminars** and **working on a group project** under the supervision of your course instructor.

8

PHASE 2 – FINAL SHOWCASE
20 Jul

This is the big day when you will **demonstrate your project in a final showcase** after weeks of intensive construction and refinement. This is a great opportunity to take a look at what your fellow peers have done and learn from each other. The showcase is also a **competition** where **certificates of achievement** and **attractive prizes** will be awarded to the winning project teams.

2 CLUSTERS & COURSES

CLUSTERS & COURSES

X-CLUSTER

- Solving Real World Problems with Computational Thinking
- Structure and Interpretation of Computer Programs
- Designing Interactive Interfaces: UI/UX in the Digital World

CLOUD, SECURITY, IOT & AI

- Cloud Computing with Big Data
- DOTA Defense of the Ancients
- Robotics
- Deep Learning
- Artificial Intelligence of Things
- Visual Computing

MEDIA, ANALYTICS & AI

- Introduction to 2D Game Development
- Real-Time Graphics Rendering
- Big Data Analytics and Visualization
- Web Mining
- Solving Real World Problems with Simulation
- AI/ML for Financial Services

CLUSTERS & COURSES

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- Real-Time Graphics Rendering
- Big Data Analytics and Visualization
- Web Mining
- Solving Real World Problems with Simulation
- AI/ML for Financial Services

Suitable for:

- **Year 1** undergraduates with **Computer Science** related majors
- Undergraduates with a **non-computing** major from any year of study

CLUSTERS & COURSES

X-CLUSTER_

Solving Real World Problems with Computational Thinking

Structure and Interpretation of Computer Programs

Designing Interactive Interfaces: UI/UX in the Digital World

CLOUD, SECURITY, IOT & AI

Cloud Computing with Big Data

MEDIA, ANALYTICS & AI

Introduction to 2D Game Development

Real-Time Graphics Rendering

Big Data Analytics and Visualization

Web Mining

Solving Real World Problems with Simulation

AI/ML for Financial Services

Suitable for:

Year 2 and above undergraduate students majoring in:

- ❑ Computer Science
- ❑ Software Engineering
- ❑ Information Systems
- ❑ Mathematics
- ❑ Electronics and Electrical Engineering
- ❑ Other related disciplines

CLUSTER 1: X-CLUSTER

Solving Real World Problems with Computational Thinking

LEONG Hon Wai

Designing Interactive Interfaces: UI/UX in the Digital World

Bimlesh WADHWA

Structure and Interpretation of Computer Programs

Sanka RASNAYAKA

Solving Real World Problems with Computational Thinking

Cluster: X-Cluster

Computational thinking (CT) is an important 21st century skill and a fundamental method for solving complex problems. CT involves problem formulation, abstraction, decomposition, pattern recognition, and algorithm design. This working will give a fun introduction to CT, and it emphasizes the thinking process, and the communication of the problem-solving process (instead of just focusing on the coding). Students learn to apply CT to understand, formulate and solve everyday problems within and across disciples.

Some of the topics covered include formulation of computational problems, the use of abstraction to write high-level algorithms, the use of decomposition and pattern recognition to help in designing efficient algorithms, graph modelling and algorithms, and creative problem solving via the Polya Problem Solving Process. There will also be a group project where students get first-hand experience with applying these to real world problems.

Professor
LEONG Hon Wai

Professor
Bimlesh WADHWA

Designing Interactive Interfaces: UI/UX in the Digital World

Cluster: X-Cluster

Good products work well enough, but that’s no longer enough to become great. Great products not only work well, but they also employ some magic to make you feel amazing and totally satisfied at the same time.

This magic is known as User Experience (UX) design, and in this workshop, you will learn how to make use of sensations, emotions, and perceptions to make amazing products that not only work well, but also make you feel amazing.

At the end of this workshop, you will have the fundamentals to start walking your own UX design journey, and who knows? With this course, among all the good products in this world, yours may just stand out as one of the greats!

Structure and Interpretation of Computer Programs

Cluster: X-Cluster

We can understand some computer programs in the way we solve basic math equations: by performing one simple algebraic step after another, until we reach an answer. This course introduces you to programming in this way, following the classic textbook Structure and Interpretation of Computer Programs, JavaScript edition (SICP JS). It starts from first principles, looking at functions that you know from mathematics, but before long, you will program interesting graphic and audio patterns using Source Academy, a website built for SICP JS. Video processing serves as the example domain for imperative programs. In the project, you get to develop your own programming language or module, within Source Academy. The course offers entertaining and thought-provoking insights into the essence of computation, programming, and programming languages.

Professor
Sanka RASNAYAKA

CLUSTER 2: CLOUD, SECURITY, IOT & AI

Cloud Computing with Big Data

Richard T. B. Ma

DOTA Defense of the Ancients

Hugh ANDERSON

Artificial Intelligence of Things

TAN Wee Kek

Visual Computing

Terence SIM

Deep Learning

Colin TAN

Robotics

Boyd ANDERSON

Cloud Computing with Big Data

Cluster: Cloud, Security, IoT & AI

This is a project-based workshop that exposes students to the theories and techniques of cloud computing and the use of cloud-native open-source systems to build big data analytics applications. The learning objectives include understanding of key principles of cloud computing concepts, models, technologies and its application for big data. The course is divided into two parts: two 3-hr lecture that introduces basic cloud computing concepts, modules and technologies, and a project to develop web-based big data cloud applications augmented with four 2-hr project related lectures.

I. Topics include: principles of cloud computing – what and why, key business drivers, basic concepts and terminology, technical and non-technical challenges; fundamental concepts and models – cloud characteristics, cloud service (delivery) models, reference architecture, cloud deployment models; technologies behind cloud computing – resource hosting, main components in a datacenter, virtualization, multitenancy; cloud architecture – how to organize (partition) resources, how to operate/manage resources to meet certain objectives, cloud bursting; cloud applications and paradigms – cloud applications, challenges in developing applications, application development models – IaaS (Infrastructure as a Service), PaaS (Platform as a Service) and SaaS (Software as a Service), MapReduce programming model.

II. Cloud-based Big Data Projects - The learning outcome of the team-project is to design a big data application and to develop its implementation on a public cloud. A hackathon-like approach will be adopted to allow students to suggest ideas and form teams based on individual interests and skills. Four 2-hr lectures cover programming PaaS and SaaS IBM cloud services and pattern-based approach to design and implement big data applications. Students learn by examples with hands-on laboratories. For data, students can tap on the rich Singapore Smart Nation Open Government Data repositories among others.

Professor
Richard T. B. Ma

Professor
TAN Wee Kek

Artificial Intelligence of Things

Cluster: Cloud, Security, IoT & AI

Artificial Intelligence of Things (AIoT) lies at the intersection of Artificial Intelligence (AI) technologies and Internet of Things (IoT) infrastructure. AIoT aims to achieve smart IoT operations that optimise human-machine interaction, and data management and analytics.

More specifically, IoT is set to disrupt the way we live and work. Smart homes that are filled with connected devices are loaded with endless possibilities to make our lives easier, more convenient, and more comfortable. Industry 4.0, which is powered by Industrial IoT (IIoT), promises to turn smart manufacturing and smart factory into a reality.

IoT devices are expected to generate a huge volume of data. AI techniques such as machine learning and deep learning can help individuals and organisations alike to realise unprecedented business values from these data.

In this course, you will learn how to work with single-board microcontrollers and computers in conjunction with various connected devices such as sensors, actuators, camera module, smartphones, smartwatches, Bluetooth Low Energy beacons, and other interesting hardware to build various smart home and industry scenarios. You will also learn how to integrate a real-time data pipeline for visualising and analysing the data that are collected by these devices to create a smart AIoT system.

DOTA Defense of the Ancients

Cluster: Cloud, Security, IoT & AI

No - not DOTA, and not DOTA 2. This workshop is all about computer security. We are building a brave new world, where computer systems intrude everywhere, in your home, at your work, in your pockets. Many systems are based on truly ancient technology. We will look at how to defend our ancient systems, providing practical guidance as to how to make you, your organization, and even your country safer.

DOTA will cover topics such as: attack surfaces for Windows and UNIX based systems, Android, GSM, SCADA/PLCs networking hardware, remote car controllers; injections, cross-site scripting, overflows, classic attacks, cryptography, PKI; defenses: software techniques, design approaches, configurations, IDS.

Professor
Hugh ANDERSON

Professor
Terence SIM

Visual Computing

Cluster: Cloud, Security, IoT & AI

Visual Computing concerns the analysis and synthesis of images and videos. Understanding images is an AI problem, and the field has grown substantially because of the confluence of big data, powerful hardware, and machine learning. Applications are everywhere: face detection in digital cameras, optical character recognition for text translation, diet apps in smartphones, etc.

In this course, you will learn the basics of visual computing, including: image processing & synthesis, object recognition. You will learn through lectures and hands-on sessions, culminating in a final group project.

At the end of the course, you will:

- Understand the basics of visual computing
- Use Python and OpenCV to perform image processing and analysis
- Complete a non-trivial but interesting image analysis project

Robotics and Deep Learning

Cluster: Cloud, Security, IoT & AI

This workshop is divided into two concurrent tracks: A **robotics track** and a **deep learning track**.

In the robotics track, we will learn how to design circuits that interface microcontrollers with sensors like light detectors, contact switches, colour sensors, and temperature sensors to understand the environment, and actuators like motors, light emitting diodes, servos to interact with and change the environment.

We will also be looking at how to program the microcontrollers to read the sensors, how to communicate the readings, how to make decisions, and how to activate the actuators.

In the deep learning track, we will look at how to apply statistical methods and deep learning neural networks to make sense of data coming from sensors, in order to make predictions or decisions on what actuators to drive and how to drive them.

Jointly both tracks will also learn how to stream data from the sensors to backend servers, how to set up and program those servers, and how to get decisions back and perform actions with the actuators.

To get the most out of these workshops, interested students with a background in deep learning or artificial intelligence are strongly encouraged to join the robotics track, while students with a background in electrical engineering or robotics are strongly encouraged to take up the deep learning track.

Students in the Robotics Track should have a good working knowledge of the C Programming Language, and students in both tracks should have a good working knowledge of Python.

Professor Colin TAN

Professor Boyd ANDERSON

CLUSTER 3: MEDIA, ANALYTICS & AI

Big Data Analytics & Visualisation

Danny POO

Web Mining

LEK Hsiang Hui

Introduction to 2D Game Development

Kelvin SUNG

Real-Time Graphics Rendering

LOW Kok Lim

Solving Real World Problems with Simulation

Gary TAN

AI/ML Financial Services

Anand BHOJAN

Professor
Danny POO

Big Data Analytics and Visualization

Cluster: Media, Analytics & AI

The “Big Data” phenomenon has come about with the increased production, storage and availability of digital data. Organizations are now grappling with the problem on how to use these data effectively for the benefits of the business. Big Data Analytics is the practice of using digital data for understanding insights from data. To unlock the potential contained within the Big Data requires the application of techniques to explore and convey the key insights. Data is the oil, and data visualization is the engine that facilitates its true value. This course discusses the art and science of data visualization, methods for visualizing data and a methodology for visualizing data for effective and efficient communication of data in business. Participants will be able to create their own stunning and effective visualizations based on real data.

Learning Objectives and Outcomes

- Understand what big data is and how Big Data Analytics can help organizations achieve a competitive advantage.
- Appreciate the benefits and insights that Big Data Analytics bring to the organizations.
- Learn how to use methods and methodology to produce effective and efficient data visualizations.

Introduction to 2D Game Development

Cluster: Media, Analytics & AI

Examines the fundamental issues in designing and developing computer video games; creative and artistic elements, story narration, software architecture, interaction model, mathematic, physics, special effects, and in-game AI logic.

Experiences elements in game design: world setting, game play, and interface; and experiences implementing games: conceptualization, prototyping, and play testing.

Learning Objectives

- Critically examine video games
- Understand the structure of games
- Design, prototype, test and implement a game from scratch
- Understand and extend techniques commonly used in games
- Work in groups, present and reflect on extended project

Professor
Kelvin SUNG

Professor
Low Kok Lim

Real-Time Graphics Rendering

Cluster: Media, Analytics & AI

Real-time graphics is at the heart of all 3D interactive computer applications, such as 3D games, VR, 3D modelling, and data visualization.

Recent rendering techniques have been heavily exploiting the powerful graphics hardware to achieve unprecedented performance and effects.

In this course, students study the modern real-time rendering pipeline. It introduces modern and traditional real-time rendering techniques, and students learn to write shaders to implement these techniques for the GPU.

The syllabus includes multiple-pass rendering, shading & reflection models, procedural texture-mapping & shading, lights & shadows, non-photorealistic rendering, deferred shading, post-rendering processing, etc.

Web Mining

Cluster: Media, Analytics & AI

With the increased adoption of digital solutions, huge amount of data is generated on the web. While this data is readily available on web pages or found in web applications, most of the emphasis in the data analytics world focus more on the predictive modeling aspects and assumes that the data can be easily downloaded from data repositories such as Kaggle. However, this limits the number of AI applications that can be built.

This course addresses both the manual mining of web content and predictive modeling of the data. Specifically, students will be taught various systematic techniques on how to mine web content, and how to process the data such as applying predictive modeling and building recommender systems.

Professor
LEK Hsiang Hui

Professor
Gary TAN

Solving Real World Problems with Simulation

Cluster: Media, Analytics & AI

This course aims to provide students with a working knowledge of modelling and simulation. Simulation is used almost everywhere and in this module, students will learn how to apply simulation techniques to model, simulate and study systems. It covers techniques in simulation model design, input modelling, model execution and model analysis. Students will have hands-on experience using a simulation package to gain a better understanding of how simulation is applied in the real world, e.g. in Digital Twins, Crisis Management and Traffic Simulation.

The objectives of this course are:

- Understand how computer simulation can be used to model complex systems and aid decision making.
- Learn to use simulation software, such as Arena, to run simulation projects from start to finish.
- Learn how to incorporate statistical methods when designing a simulation.
- Learn how to interpret and validate the results obtained from simulations.
- Communicate insights obtained from the simulation analysis to the lay audience.

Professor
Anand BHOJAN

AI/ML Financial Services

Cluster: Media, Analytics & AI

In this workshop, students will be introduced to financial services, trading and the importance of AI/ML in the fintech industry with a set of case studies. Students will learn fundamental concepts of AI/ML, including supervised/unsupervised learning, bias-variance tradeoff, principal component analysis and neural networks. You will get hands-on experience in obtaining financial data via Quandl, or Yahoo Finance and understanding financial data and structure the data in a way that is amenable to ML algorithms. Students will be equipped with skill to implement machine learning algorithms to extract key features from financial datasets. Students will also be trained to develop fintech web applications using modern web application frameworks reactJS, python-flask and basic DB.

The objectives of this course are:

- Understand and appreciate the growing importance of AI/ML in the Financial Industry.
- Understand the and distinguish between supervised machine learning (ML), unsupervised ML, deep learning and artificial intelligence.
- Understanding statistical and mathematical models and their limitations.
- Understand Financial datasets and prepare the data for ML using Python libraries.
- Build and apply appropriate AI/ML models and data processing techniques using Python libraries for business decisions in financial settings.
- Use reactJS, python-flask, basic DB operations (CURD) to build fintech web applications.

3 APPLICATION

APPLICATION

Apply online via: https://app.comp.nus.edu.sg/app/appln/

Deadline: 10 April 2024

Application may be closed earlier if all vacancies are filled before the deadline.

Contacted within 1 week

Applicants will be informed of the outcome or subsequent steps required (if application materials / information are incomplete) within 1 week upon submission.

Open to all undergraduates

The **Cloud, Security, IoT & AI cluster** and the **Media, Analytics & AI cluster** are recommended for Year 2 and above undergraduates majoring in Computer Science, Software Engineering, Information Systems, and other related disciplines (you may enquire).

The **X-Cluster** is more suitable for Year 1 Computer Science (or related disciplines) undergraduates or non-computing undergraduates in any year of study.

Apply early to secure cluster

Some popular topics may be oversubscribed - we advise that you apply early for the best chance at getting your topic of choice.

REQUIRED DOCUMENTS

01 TRANSCRIPT

- In English
- Chinese transcripts acceptable for students from Chinese medium universities

02 ENGLISH QUALIFICATIONS

- Applicable to students from non-English medium universities
- Accepted qualifications: TOEFL, IELTS, CET4, CET6

03 IDENTITY CARD

- Applicable to students from China universities (for purchase of insurance)
- Please provide scanned copies of the front and back of your identity card

04 AWARDS /ACHIEVEMENTS

- Optional
- You may provide certificates of awards / achievements that you believe may support your application

05 PASSPORT

- Please submit a scanned copy of your passport photo page
- If you do not have a passport at the time of application, you may indicate "pending passport application" in the application form

PROGRAMME FEE

- There is no application fee.

- Programme fee is only payable after receiving offer letter/email from the organiser.

- Once you have received an offer email, you may log in to the application system to make payment of SGD5,980 before the deadline stated in your offer email.

- The Programme fee is inclusive of teaching and learning (phase 1 learning + phase 2 learning & project work), accommodation (single room with air-conditioning), insurance (personal accident insurance), medical (only applicable in NUS campus clinic, must be accompanied by programme organiser), airport transfer for arrival and departure between Singapore Changi Airport and NUS hostel, welcome lunch and closing ceremony, NUS Polo T-Shirt, transportation card (with limited loaded value), certificate and performance report slip.

- To have the assurance that you will have the best chance at getting your preferred cluster, you should make payment as soon as possible upon receiving an offer.

Programme Fee:
SGD5,980

Accepted Payment Methods:

VISA mastercard. AMEX PAY NOW

4 TESTIMONIALS

TESTIMONIALS

Thank you very much for this summer study, which allows me to feel the thick learning atmosphere of NUS, experience the quality education of world-class universities, and experience the culture. I like both Singapore and NUS very much and hope to come here to study in the future if I have another chance!

The dormitory provided by NUS makes me feel very comfortable, the single room guarantees my private space, and the kitchen and toilet on each floor are very clean and convenient to use. During this period of time, I am very comfortable to live here, and I am very grateful to NUS for providing me with such a dormitory, so that I can spend a happy 21 days here!

Summer Workshop 2023 Participant
Li Yaxin

Prof.Bimlesh and TA Yugin was very detailed to present us with a wonderful course which in no more than 12days showed us a basic yet complete world about UX design. There were painpointshunting, preliminary conceiving, storyboard, evaluation and prototyping, andeach part of these led me to plenty of new information and knowledge which I would've had no clues to know on my own. Overall, UX design was a course well-presented.

Summer Workshop 2023 Participant
Wang Jinchen

I learned a lot from 2023 workshop, thanks Prof Danny and TA Guoting, their patient consulting made me form an overall deep understanding and insight in big data analysis and visualization.

Summer Workshop 2023 Participant
Luo Manqi

I think Prof Hugh Anderson is really excellent. I have gained a lot from him. I really enjoy the academic atmosphere at NUS and I'm really grateful that the NUS Staff and/or Student Helpers have provided me with such a wonderful learning journey.

Summer Workshop 2023 Participant
Xu Anjun

TESTIMONIALS

I am honored to have the opportunity to attend the summer workshop of NUS SoC. During my stay here, I learned a lot about our topic, Big Data Analytics and Visualization. The project we worked on helps me improve my skills and enrich my knowledge. I feel really grateful towards my professor, teaching assistant, all the staff and student helpers, who have supported me and offered me a lot of help within these days, and I really like the academic atmosphere and campus environment of NUS.

NUS has ensured its students an excellent place to study and live in, as well as a colorful, meaningful university life. I wish I could have a chance to step into this university as its student again in the future. Life in NUS is a wonderful experience for me, and I will work harder to become a better student, keep going to become a better person.

Summer Workshop 2019 Participant
Yu Jiaqian

In a short period of slightly over 20 days in the National University of Singapore, I quickly got used to the life here. Every teacher and student is very kind and makes me feel very warm. Uncle Soo and Colin are very kind and amiable. The four assistants are also very handsome and enthusiastic. I really can't bear to end this project so soon. It's my unforgettable memory to say good morning to the uncle who sweeps the floor every morning. I very much hope that in the future I will have the opportunity to join NUS and look forward to meeting each other again.

Summer Workshop 2019 Participant
He Li

Although I have only been at NUS for three weeks, I did feel a different culture, different learning styles, and lifestyle. Self-study rooms can be seen everywhere in the school, and numerous libraries make me deeply feel the learning atmosphere of a top university. The diversified life of NUS has enriched my life.

Before we arrive, the organizers were busy assisting us by answering questions late at night and early in the morning. The airport pickup assistants even waited until midnight, which touched me a lot. Every teacher is not only responsible but also humorous. I do really hope that I can come to NUS again as a graduate student.

Summer Workshop 2019 Participant
Liu Zhonghang

I think that the preparations for the workshop are very well done, so that we have a feeling of being at home even before we begin the workshop. It allows us to feel the general situation of this workshop in the early stage, and there are various people to answer our doubts, so that we do not feel helpless even in a foreign country.

The housing conditions are very good, each person can have their own independent space, but this does not hinder communication with other students. The organizers are very friendly and responsible, and problems can be solved efficiently.

Summer Workshop 2019 Participant
Wu Haotian

TESTIMONIALS

Kelvin is literally the best professor I have ever met. He is a professional and patient lecturer, as well as a kind and friendly person. I love him! I have learnt so much from this class. It's not just about how to build a game with the knowledge we learned. It's about how to manage time, how to communicate and how to solve problems efficiently. It's hard for me to accept the class is already over now. I just love EVERYTHING about it so so much.

Summer Workshop 2019 Participant
Guo Mengwei

From my perspective, our instructor Prof Lek is kind and warm-hearted. He explained the course clearly and soundly. Besides, his personal mentoring was excellent and really solved a lot of our problems. For example, our group had some difficulties deciding our project topic. Prof Lek mentored us twice and helped us narrow down our topic. During the summer workshop, he was always available. Even when we encountered some troubles at midnight, we could also reach him through Teams. However, we hope he will stay up less and always stay healthy!

As for our TA, Mr Tan is also capable and helpful. I had some online meeting with him and he was very nice. Not only did he help me solve my problem but he was willing to have small chats with me as well. I really hope I will meet our teacher and TA in the future.

Summer Workshop 2022 Participant
Jiang Guangqi

The professors taught well and helped us a lot. I found the discussion session very helpful for digesting the concepts.

Summer Workshop 2021 Participant
Tsai Chengyan

DOTA Defense of the Ancients topic contains a variety of fields and knowledge associated with cyber security. As a year-3 student who majors in cyber security in Wuhan University, I think this course gives a well-organized overview of the whole field.

Professor Hugh demonstrated a magnificent and colorful image over information security by using intriguing instances and a series of appropriate computer experiments. Definitely, completing this summer workshop led me to construct a deeper understanding of my professional knowledge which really helps a lot.

Summer Workshop 2019 Participant
Tang Jiaxuan

Having such an excellent journey with Prof Colin and Uncle Soo is one of the happiest things this year.

Summer Workshop 2021 Participant
Zhang Qixiang

5 NUS FACILITIES

ACCOMMODATION

Prince George's Park Residences (PGPR) is a self-contained student housing estate with an apartment-style living arrangement. During the program, students will be staying in PGPR **single rooms equipped with air-conditioners**. PGPR is easily accessible by internal shuttle buses so you can travel to your class venues conveniently. Immerse yourself in the full experience of being in NUS, studying and living on the NUS Campus!







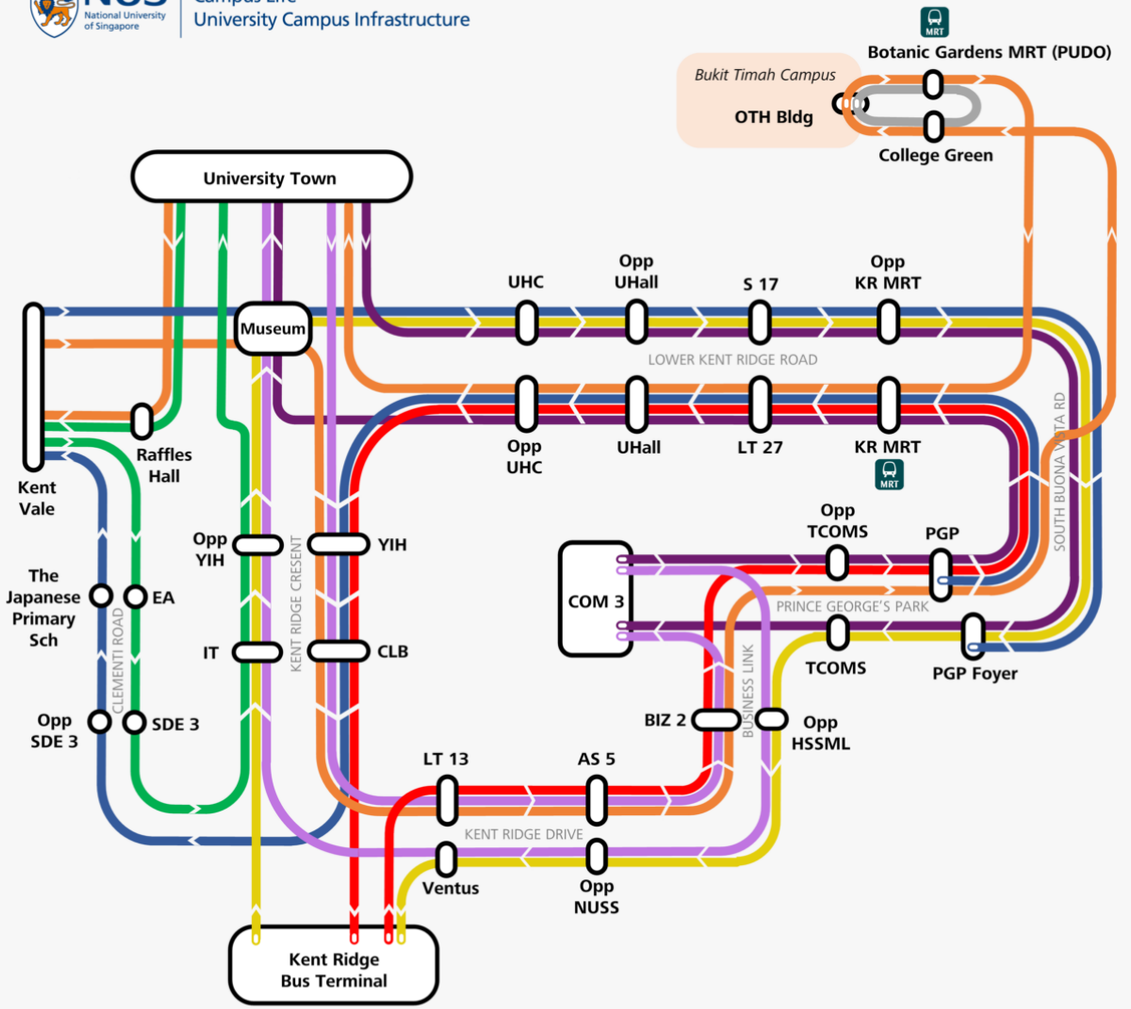

UNIVERSITY HEALTH CENTER

As a healthcare provider of the NUS community, the University Health Center (UHC) offers a wide range of healthcare services. Should you feel unwell during your stay in NUS, you should seek for medical attention at UHC and our team of dedicated healthcare staff will be able to assist you.

If you consult a General Practitioner (GP) at UHC, the consultation fees will be covered by the Summer Workshop organiser. If you do not feel well during your stay in NUS, please inform our staff or student helper immediately at our One-Stop Programme Office. You will be escorted by our staff or student helper to consult a GP at UHC. Please note that students seeking medical consultation at healthcare facilities other than UHC will need to pay by themselves (including the National University Hospital).

NUS Internal Shuttle Bus
NETWORK MAP

NUS National University of Singapore | Campus Life
University Campus Infrastructure



LEGEND:

A1 | A2 | D1 | D2 — Bus Stop

K | E | BTC | L — Start/End of Route

with effect from 16 October 2023

NUS INTERNAL SHUTTLE BUS

NUS provides free internal shuttle bus services for staff, students and visitors to move around our spacious campuses.

Currently, we have a well-developed internal shuttle system with 8 different bus routes in operation (6 in Kent Ridge campus and 2 in Bukit Timah Campus).

FOOD IN NUS

Kent Ridge Campus

6 canteens | 41 F&B outlets

University Town

2 food courts | 9 F&B outlets

C J Koh Law Library

Central Library

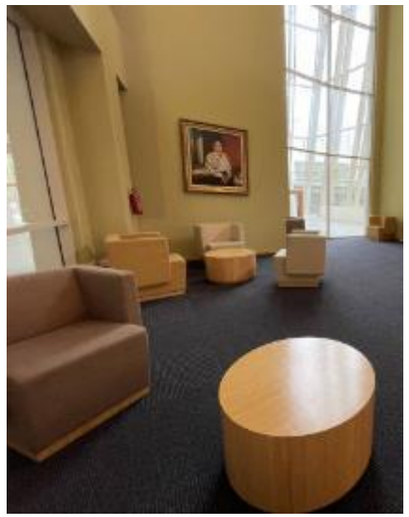
Wan Boo Sow Chinese Library

Hon Sui Sen Memorial Library

LIBRARIES IN NUS

The NUS Libraries comprises a number of libraries which support teaching and research for various schools, faculties and their graduate divisions as well as administrative units and research institutes.

Medical Library



Music Library

Science Library

5 GETTING AROUND SINGAPORE

GETTING TO KNOW SINGAPORE

Garden City

Weaving nature and greenery into the city

Multiracial Society

4 official languages: English, Chinese, Malay and Tamil

Global Financial Hub

The 3rd largest international financial center after New York and London

Safe and Secure

The 2nd safest city in the world with advanced healthcare system

Tropical Climate

Average temperature between 25 to 32 ℃

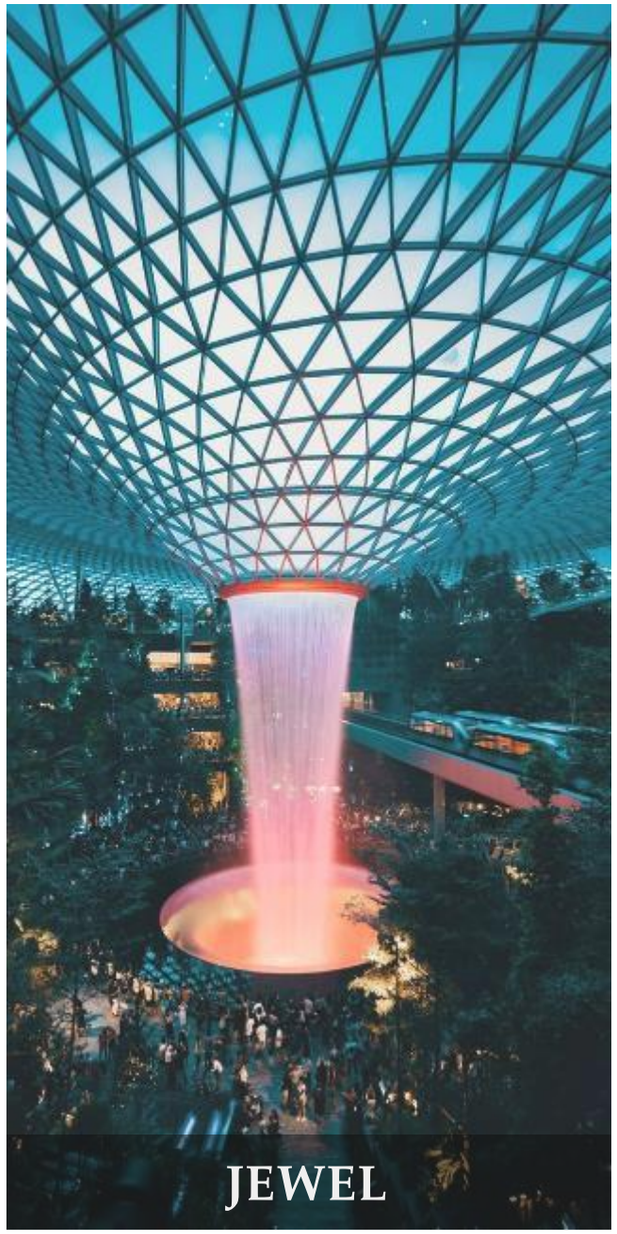
TRANSPORTATION

FOOD

Diverse culture and rich history makes Singapore a gourmet paradise.

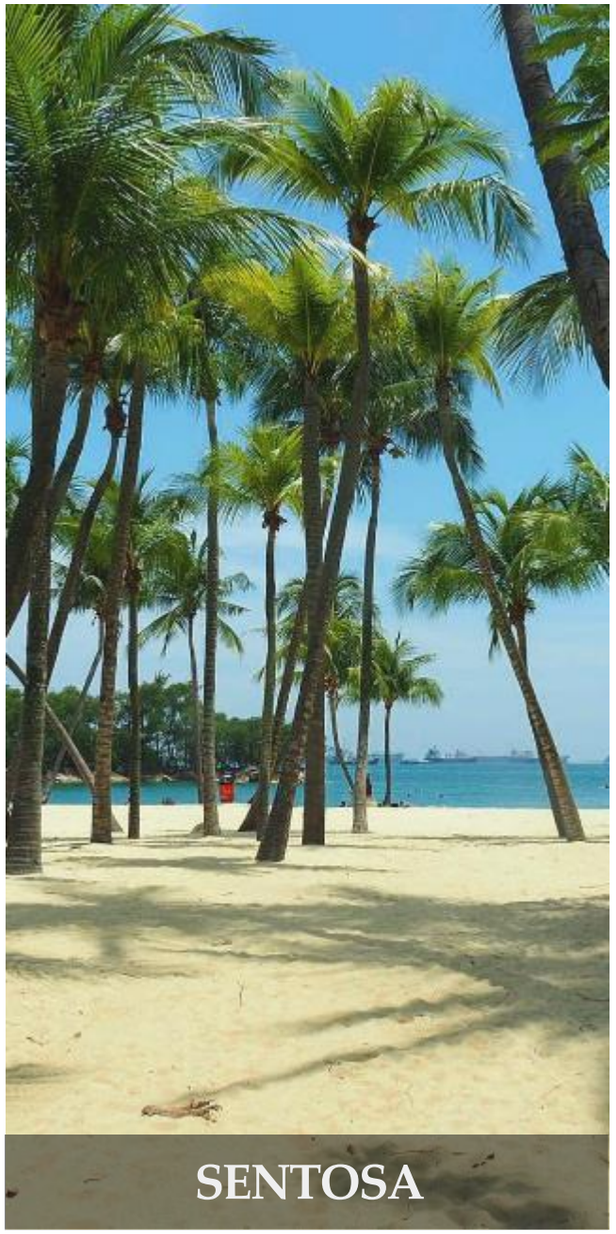
Food lovers in this country will be spoilt for choice. You can expect to find international cuisine from all over the world. Singapore is known for the wide spread of food choices from Asian countries such as China, India, Malaysia.

There are many restaurants and food courts in every corner of the NUS campus. Restaurants are clean and tidy. Food is affordable and delicious.



FUN

Singapore has a unique style of architecture, reflecting it’s rich heritage. The city is also known for its world-renowned scenic spots, your time outside the classroom would be just as electrifying!



CONTACT US

Contact

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Official Email

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Relevant Links

Summer Workshop Online Application Portal

https://app.comp.nus.edu.sg/app/appln/

NUS SOC NGNE Programme

https://www.comp.nus.edu.sg/~ngne/

NUS SOC Graduate Programmes

https://www.comp.nus.edu.sg/programmes/#graduate




Thank you!



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