

Exploring Computer Science/Information Technology as a Career

Collaborator: Chumbaka

Target Audience: SMK Aminuddin Baki Pembimbing Rakan Sebaya



UNIVERSITI
MALAYA

My Personal Journey to Computer Science (CS)

By: Jonathan Siew Zunxian



About Me



2017 - 2022

- Joined the Shell NXplorers Programme from 2018 to 2020.
- Participated in the MDEC Digital Ninja Programme in 2018 and 2020
- Studied Computer Science as an SPM subject.



2022 - 2023

- Took Jurusan Sains (Sains Fizikal)

Kolej Matrikulasi Selangor



2023 - present

- Currently pursuing Bachelor of Computer Science (Artificial Intelligence)
- Google Developer Students Clubs Tech (AI) Core Team Member (2023 - 2024)
- Vice Head of Logistics & Technical (Technical) Persatuan Komputer Universiti Malaya (2024 – present)

Comparison between Shell NXplorers Programme and MDEC Digital Ninja Programme

Shell NXplorers Programme	MDEC Digital Ninja Programme
Launched in 2017	Launched in 2017
Involving 15 schools across Sarawak, Sabah and Peninsular Malaysia	No limit of schools, recruit students from all around Malaysia - SAB students: Do not need to be part of the Shell NXplorers Programme to join this programme
The programme content is structured over three years, guided by mentors	The programme content is structured approximately six months, guided by mentors
Do not need to have an existing digital project prototype to apply for the programme	Have an existing digital project prototype to apply for the programme
End product is a digital novel solution that solves a real world problem and you will compete among your peers in a competition/hackathon	End product is a digital novel solution that solves a real world problem and you will compete among your peers in a competition/hackathon
Reference: https://www.shell.com.my/sustainability/communities/shell-stem-programme/about-shell-nxplorers-malaysia	Reference: https://sites.google.com/moe-dl.edu.my/digital-ninja/home?authuser=0

Taking Computer Science as an SPM subject

You will be learning

Form 4:

- a) Java
- b) Database
- c) Human Computer Interaction (Principles)

Form 5:

- a) Computer Ciphering and Deciphering, Technology-related Laws, Computer System and Organization – Logic Gates
- b) Database (SQL)
- c) Web-based Programming (HTML, CSS)



Personal Advice



Avoiding Biology

Choose CS if you're certain you don't want to pursue Biology or related fields (e.g., microbiology, medicine, pharmacy, dentistry).



Career Alignment:

Opt for CS only if you're confident your career path won't involve Biology.

Remember, taking CS in school doesn't guarantee you'll outperform peers in a CS-related degree later.



School vs. University Focus

In Secondary School: CS focuses more on theory, requiring a written exam and a project.

In University: CS emphasizes practical skills like solving programming problems under timed conditions (e.g., coding exams without tools like ChatGPT). Flowcharts and pseudocode won't contribute much to your final grades.



Flexibility in Future Studies

Studying CS in school doesn't lock you into a tech career. You can pivot to other fields like Engineering, Economics, or Business for higher studies.

Available streams in Program Matrikulasi (Updated December 2024)



KEMENTERIAN PENDIDIKAN
BAHAGIAN MATRIKULASI

PERMOHONAN KEMASUKAN KE PROGRAM MATRIKULASI SESI 2025 / 2026



Tarikh Permohonan
1 Disember 2024
sehingga
28 Februari 2025



Info Matrikulasi
Sila imbas
untuk maklumat lanjut

>PERMOHONAN ADALAH PERCUMA<



Program Matrikulasi KPM



matrikulasi_kpm

#matrikulasidihatiku #menerajukejayaanmasadepan

JURUSAN

- Jurusan Sains
- Jurusan Sains Komputer
- Jurusan Kejuruteraan
- Jurusan Perakaunan
- Jurusan Perakaunan Profesional

KEISTIMEWAAN

- Laluan pantas ke universiti
- Yuran pengajian & penginapan percuma
- Bantuan Sara Hidup bagi yang layak
- Diiktiraf 56 universiti antarabangsa

Sijil Matrikulasi KPM boleh memohon berkhidmat dalam Perkhidmatan Awam pada Gred 29

MAKLUMAT BAHARU MULAI SESI 2025/2026

- Jurusan Sains Komputer
- Mata Pelajaran Hifz Al-Quran

Science-based Streams in Matrikulasi Programme

JOM MASUK MATRIK JURUSAN SAINS

PELAJAR LEPASAN SPM 2020 DIGALAKKAN MEMOHON !!

99%
Pelajar berjaya menyambung pengajian ke Ijazah Pertama di Universiti Awam

Siapa yang layak memohon?
Semua pelajar lepasan SPM aliran sains dan aliran teknikal dari Sekolah Kerajaan, Sekolah Bantuan Kerajaan, Sekolah Swasta, MRSM dan lain-lain layak dan digalakkan memohon ke Jurusan Sains Program Matrikulasi KPM.

Sambung belajar bidang apa?
Perubatan, Kejuruteraan, Pergigian, Farmasi, Sains, Teknologi Maklumat, Seni Bina, Kejururawatan, Sains Forensik, Fisioterapi, Pendidikan dan lain-lain pengajian dalam bidang STEM.

Sambung belajar di mana?

- Semua Universiti Awam - Malaysia
- Universiti Luar Negara (United Kingdom, Australia, New Zealand dan Jepun)
- Universiti Swasta - Malaysia

Kolej manakah Jurusan Sains ditawarkan?

Tarikh tutup permohonan: 15 APRIL 2021
Permohonan secara dalam talian: matrikulasi.moe.gov.my/

Apa yang anda akan belajar?

Aliran Sains Hayat	Aliran Sains Fizikal	Aliran Sains Komputer
1. Biologi	1. Fizik	1. Sains Komputer
2. Kimia	2. Kimia	2. Biologi
3. Fizik	3. Matematik	3. Kimia
4. Matematik	4. Sains Komputer	4. Matematik

#MATRIKULASIDIHATIKU #MATRIK1STCHOICE

JOM MASUK MATRIK JURUSAN KEJURUTERAAN

PELAJAR LEPASAN SPM 2020 DIGALAKKAN MEMOHON !!

100%
Pelajar berjaya menyambung pengajian ke Ijazah Pertama di Universiti Awam dalam bidang Kejuruteraan

Siapa yang layak memohon?
Semua pelajar lepasan SPM aliran sains dan aliran teknikal dari Sekolah Kerajaan, Sekolah Bantuan Kerajaan, Sekolah Swasta, MRSM dan lain-lain layak dan digalakkan memohon ke Jurusan Kejuruteraan Program Matrikulasi KPM. Pelajar sekolah menengah teknik amat dialu-alukan.

Sambung belajar bidang apa?
Kejuruteraan, Seni Bina, Keselamatan dan Kesihatan Pekerja dan lain-lain pengajian dalam bidang STEM.

Sambung belajar di mana?

- Universiti Awam - Malaysia
- Universiti Luar Negara (United Kingdom, Australia, New Zealand dan Jepun)
- Universiti Swasta - Malaysia

Kolej manakah Jurusan Kejuruteraan ditawarkan?

Tarikh tutup permohonan: 15 APRIL 2021
Permohonan secara dalam talian: matrikulasi.moe.gov.my/

Apa yang anda akan belajar?

Aliran Kejuruteraan Elektrik & Elektronik	Aliran Kejuruteraan Mekanikal
1. Kejuruteraan Elektrik & Elektronik	1. Kejuruteraan Mekanikal
2. Matematik	2. Matematik
3. Kimia	3. Kimia
4. Fizik	4. Fizik

Aliran Kejuruteraan Awam	Aliran Asas Kejuruteraan
1. Kejuruteraan Awam	1. Asas Kejuruteraan
2. Matematik	2. Matematik
3. Kimia	3. Kimia
4. Fizik	4. Fizik

#MATRIKULASIDIHATIKU #MATRIK1STCHOICE

Art-based Streams in Matrikulasi Programme

JOM MASUK MATRIK **ALIRAN PERAKAUNAN PROFESIONAL**

PELAJAR LEPASAN SPM 2020 DIGALAKKAN !!

Siapa yang layak memohon?
Semua pelajar lepasan SPM dari Sekolah Kerajaan, Sekolah Bantuan Kerajaan, Sekolah Swasta, MRSM dan lain-lain.

Sambung belajar di mana dan bidang apa?
UITM - Professional Association of Chartered Certified Accountants (ACCA)

Apa yang anda akan belajar?

Aliran Perakaunan Profesional

1. Financial Accounting
2. Management Accounting
3. Accountant in Business
4. Mathematics

Kolej manakah Aliran Perakaunan Profesional ditawarkan?

Kolej Matrikulasi Selangor

99%
Pelajar berjaya meneruskan pengajian ke UITM dalam Program Profesional ACCA

Tarikh tutup permohonan: 15 APRIL 2021
Permohonan secara dalam talian: matrikulasi.moe.gov.my/

#MATRIKULASIDIHATIKU #MATRIK1STCHOICE

JOM MASUK MATRIK **JURUSAN PERAKAUNAN**

PELAJAR LEPASAN SPM 2020 DIGALAKKAN !!

Siapa yang layak memohon?
Semua pelajar lepasan SPM dari Sekolah Kerajaan, Sekolah Bantuan Kerajaan, Sekolah Swasta, MRSM dan lain-lain.

Sambung belajar di mana?

- Semua Universiti Awam - Malaysia
- Universiti Luar Negara (United Kingdom, Australia, New Zealand dan Jepun)
- Universiti Swasta - Malaysia

Sambung belajar bidang apa?
Perakaunan, Pengurusan, Perniagaan, Ekonomi, Pentadbiran Perniagaan/ Awam, Teknologi Maklumat, Pengurusan, Sumber Manusia, Undang-Undang dan lain-lain.

Apa yang anda akan belajar?

Aliran Perakaunan

1. Perakaunan
2. Pengurusan Perniagaan
3. Ekonomi
4. Matematik

Kolej manakah Jurusan Perakaunan ditawarkan?

99.9%
Pelajar berjaya menyambung pengajian ke Ijazah Pertama di Universiti Awam dalam bidang Perakaunan

Tarikh tutup permohonan: 15 APRIL 2021
Permohonan secara dalam talian: matrikulasi.moe.gov.my/

#MATRIKULASIDIHATIKU #MATRIK1STCHOICE

Computer Science Stream in Matrikulasi Programme



The infographic is titled "SAINS KOMPUTER MATRIKULASI" and is issued by the "KEMENTERIAN PENDIDIKAN BAHAGIAN MATRIKULASI". It features a central illustration of a laptop with "KOLEJ YANG DITAWARKAN" on its screen, with lines connecting it to four circles representing different colleges: "KOLEJ MATRIKULASI PERAK", "KOLEJ MATRIKULASI JOHOR", "KOLEJ MATRIKULASI LABUAN", and "KOLEJ MATRIKULASI KELANTAN". To the right, a banner says "JOM BELAJAR SAINS KOMPUTER" with an illustration of a person at a computer. Above this, a speech bubble says "NAK JADI !!!" with four yellow starburst shapes containing the roles: "Apps Developer", "Programmer", "Cyber Security", and "Hacker". Below the banner, a yellow box lists "MATA PELAJARAN PENGKHUSUSAN" (Specialized Subjects): "MATEMATIK", "PENGATURCARAAN KOMPUTER", "ASAS PANGKALAN DATA", and "TEKNOLOGI DIGITAL". At the bottom right is the "MALAYSIA MADANI" logo.

KEMENTERIAN PENDIDIKAN BAHAGIAN MATRIKULASI

SAINS KOMPUTER MATRIKULASI

SYARAT MINIMUM

Bahasa Melayu	C
Bahasa Inggeris	C
Matematik	C
Matematik Tambahan	C
Sains Komputer	C
Sejarah	LULUS
Pilih satu mata pelajaran berikut *	C

- Fizik/ Kimia/ Biologi/ Sains/ Sains Tambahan/ Teknologi Kejuruteraan/ Asas Kelestrian/ Pertanian/ Reka Cipta/ Sains Sukan/ Perniagaan/ Prinsip Perakaunan/ Grafik Komunikasi Teknikal/ Tasawwur Islam/ Pendidikan Syari'ah Islamiah/ Lukisan Kejuruteraan/ Ekonomi/ Pengajian Kejuruteraan Awam/ Pengajian Kejuruteraan Mekanikal/ Pengajian Kejuruteraan Elektrik dan Elektronik.

KOLEJ YANG DITAWARKAN

- KOLEJ MATRIKULASI PERAK
- KOLEJ MATRIKULASI JOHOR
- KOLEJ MATRIKULASI LABUAN
- KOLEJ MATRIKULASI KELANTAN

NAK JADI !!!

- Apps Developer
- Programmer
- Cyber Security
- Hacker

JOM BELAJAR SAINS KOMPUTER

MATA PELAJARAN PENGKHUSUSAN

- ✓ MATEMATIK
- ✓ PENGATURCARAAN KOMPUTER
- ✓ ASAS PANGKALAN DATA
- ✓ TEKNOLOGI DIGITAL

MALAYSIA MADANI



Personal Opinion on the CS Stream

1. A New and Evolving Stream:

The CS stream draws inspiration from the Engineering stream, offering a fresh and dynamic perspective.

2. For Passionate Learners:

If you have a genuine passion for Computer Science, this can be an excellent pathway to explore and develop your skills.

3. Flexibility in Choices:

It's okay to discover that CS isn't for you after a year. You can still pivot to other fields like Engineering or other disciplines that better suit your interests.

4. Resource Challenges:

Finding past year papers for this stream may be challenging, so be prepared to rely on additional resources and independent learning.

Personal Advice

1. Changing Streams:

Some students feel bored with Science subjects and opt for art-based streams in Matrikulasi. However, this decision may impact your UPU application as many top universities prioritize Science subjects as prerequisites for Computer Science (CS) programs.


2. Stream Selection:

Choosing **Jurusan Kejuruteraan** (Engineering Stream) or **Jurusan Sains Hayat** (Life Science Stream) will not hinder your chances of entering CS. Your attitude, commitment, and effort matter more than your prior programming background.

3. Background and Flexibility:

Even without prior programming experience, you can still excel in CS with the right mindset and work ethic.

A Science background allows for easier entry into art-related fields, whereas transitioning from non-science streams to science streams can be more challenging.



Available Programs in CS UM



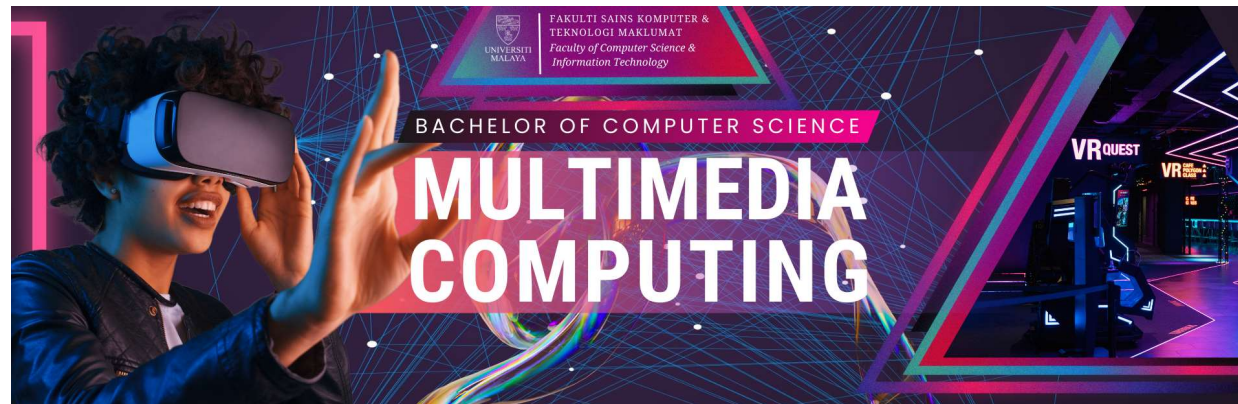
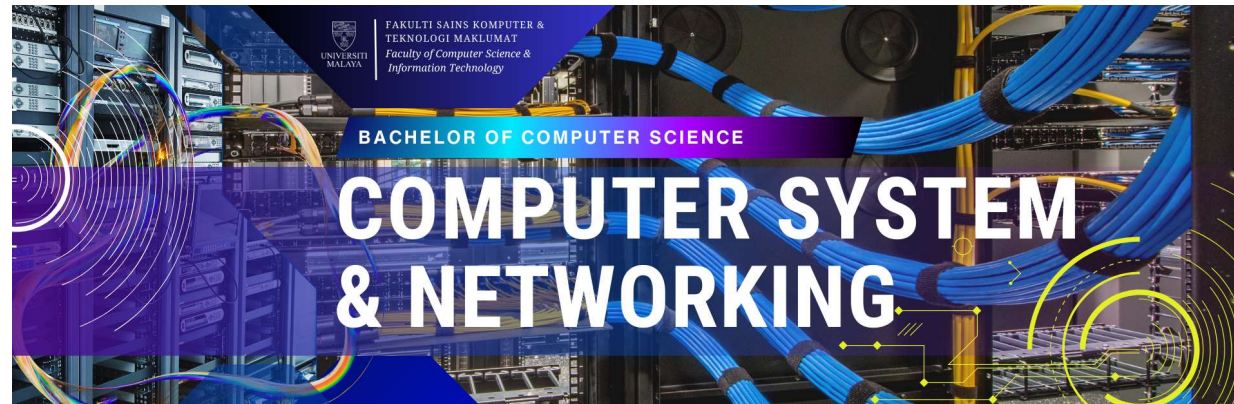
Differences between BCS (AI) and BCS (DS)

BCS (AI)	BCS (DS)
More than 100 students are enrolled in this course	Only 50 Malaysian students are enrolled in this course
Tuition fees for 3.5 years is around RM10,000.	Tuition fees for 3.5 years is around RM20,000.
The courses (subjects) focus more on AI-centric areas	The courses (subjects) emphasizes data analysis and processing
Specialization electives are designed for students aiming to develop expertise in AI techniques, robotics, and intelligent systems.	Specialization electives focus on extracting insights from data, using analytical tools, and applying big data and machine learning for decision-making.
Able to mingle more with other majors for group assignments	Able to take coveted courses that other majors do not take

Available Programs in CS UM (Cont.)



Available Programs in CS UM (Cont.)



The Reality of University Life at UM

1. Group Assignments:

Expect to handle an average of 4–6 group assignments per semester within the 14-week timeframe. These assignments are an integral part of the learning experience, emphasizing teamwork and collaboration.

2. Diverse Community:

You'll have the chance to collaborate with students from various backgrounds and regions across Malaysia. This is a unique opportunity to observe and learn about different work ethics and cultural practices.

3. Team Dynamics:

Be prepared to work with people exhibiting various work styles, such as:

1. **Free riders:** Those who rely on others to complete the work.
2. **Hardworking individuals:** Those who are diligent and committed.

Learning to navigate these dynamics will enhance your leadership and interpersonal skills.

1. Balanced Lifestyle:

University isn't just about academics. Make sure to enjoy your time on campus by engaging in extracurricular activities. For instance, participate in **SUKMUM (Sukan Mahasiswa Universiti Malaya) 2024** or explore your creative side by joining the **Universiti Malaya Symphony Orchestra**. These experiences will enrich your university journey.

