



**USM** UNIVERSITI  
SAINS  
MALAYSIA



**UNDERGRADUATE DEGREE  
PROGRAMMES**

# **SCHOOL OF MATHEMATICAL SCIENCES**

UNIVERSITI SAINS MALAYSIA





# BACKGROUND

The School of Mathematical Sciences, also known as Math@USM was established on May 29, 1974. Math@USM aims to be a recognized department of mathematics that attracts excellent students and produces quality mathematicians. To achieve this purpose Math@USM offers the Bachelor of Science and Bachelor of Applied Science degrees.

The Bachelor of Science (Mathematics), Bachelor of Applied Science (Applied Statistics) and Bachelor of Applied Science (Mathematics and Economics) programmes are formulated in an effort to produce graduates who are well-trained in the mathematical sciences to meet the nation's manpower needs. The curriculum is devised so as to provide a broad-based and rigorous mathematics education. The skills obtained at the end of the programme will provide a firm foundation to enable the graduates to further advance their knowledge in the mathematical sciences and provides specialized and solid applied mathematical sciences proficiency.

The school currently has close to 50 lecturers grouped into Pure Mathematics, Applied Mathematics, Applied Statistics and Operations Research. Math@USM has invested greatly in providing conducive facilities, up-to-date resources, and support systems to ensure the academic and personal growth of its community. In addition, Math@USM is conveniently located near eateries, convenience stores, recreational areas, the USM mosque and public transport facilities.





## OUR PROGRAMMES



BACHELOR OF SCIENCE  
(MATHEMATICS)



BACHELOR OF APPLIED SCIENCE  
(APPLIED STATISTICS)



BACHELOR OF APPLIED SCIENCE  
(MATHEMATICS AND ECONOMICS)



# BACHELOR OF SCIENCE (MATHEMATICS)

## OVERVIEW



The programme's goal is to produce graduates who are well-trained in Mathematics and are able to excel in mathematical practices in various sectors. The curriculum is designed to offer a strong mathematical foundation, while also providing students with diverse options towards the end of their studies. Students are able to enhance their skills and broaden their knowledge in other domains by taking courses from other disciplines. The skills acquired upon completion of the programme provides a firm foundation for graduates to further advance their knowledge in theoretical or applied mathematics.



## APPLICATION REQUIREMENTS



Malaysian applicants with STPM, KPM Matriculation, Foundation Studies (Asasi) or Diploma (or equivalent) must fulfill general admission requirements and the programme's specific requirements.

For further information regarding the requirements, click [Bachelor of Science \(Mathematics\)](#) or scan





# BACHELOR OF APPLIED SCIENCE (APPLIED STATISTICS)

## OVERVIEW



The programme's goal is to produce competent statisticians who are able to conduct research and development in the industry as well as in the service sectors. In this programme, students are given training that focuses on the application of statistics in areas such as medicine, finance, production and environmental science. Computer skills in analyzing data and making appropriate decisions and conclusions in solving problems are also given emphasis.



## APPLICATION REQUIREMENTS



Malaysian applicants with STPM, KPM Matriculation, Foundation Studies (Asasi) or Diploma (or equivalent) must fulfill general admission requirements and the programme's specific requirements.

For further information regarding the requirements, click [Bachelor of Applied Science \(Applied Statistics\)](#) or scan





# BACHELOR OF APPLIED SCIENCE (MATHEMATICS AND ECONOMICS)

## OVERVIEW



The objective of this programme is to produce graduates who have expertise in Mathematics and Economics. Students are given training in combining and relating mathematics and statistics to the field of economics. Computer skills in analyzing economic and financial data and skills in making informed decisions are also developed to a high level of sophistication.



## APPLICATION REQUIREMENTS



Malaysian applicants with STPM, KPM Matriculation, Foundation Studies (Asasi) or Diploma (or equivalent) must fulfill general admission requirements and the programme's specific requirements.

For further information regarding the requirements, click [Bachelor of Applied Science \(Mathematics and Economics\)](#) or scan



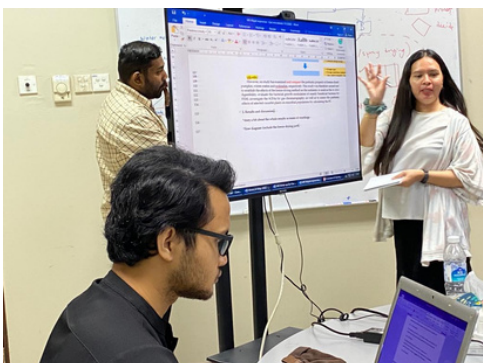


# CAREER PROSPECTS

Bachelor programmes at the School of Mathematical Sciences have been designed to meet the current career job market. We strive to enhance students' knowledge, talent and skills to prepare them for the workforce.

Our graduates are versatile and are capable of working in different fields including education, science and technology, engineering, financial and economy, communications services, business management, and sales, as well as government and corporate sectors. Some of the most common career paths include data analyst, operations research analyst, process engineer, production planner, business and financial planner, careers in banking & audit firms, lecturer and teacher.

Some of our recent graduates have been hired by Bank Negara, Micron Technology, Huawei, Clarion, Keysight, Celestica, Intel, OSK Holdings, Lembaga Tabung Haji, and National Instrument Malaysia.





# APPLICATION PROCEDURES

- ❖ Malaysian candidates may apply to our programmes through the Prime Channel (*Saluran Perdana*) or USM+1 Alternative Channel.
- ❖ Detailed application procedures and guidelines are available at [Application Procedure](#).
- ❖ Fees and charges schedules are available at [Fees](#) (Subject to amendment by the University).
- ❖ International applicants may visit [admission.usm.my](http://admission.usm.my) for application requirements and details.

Scan for more information.



**APPLY NOW!**  
**SEIZE YOUR CHANCE TO SHINE WITH MATH@USM**



# MATH@USM TESTIMONY

Ang Kah Ming

*Alumni*

I am so grateful for the education on Applied Statistics I have received at School of Mathematical Sciences, Universiti Sains Malaysia. The curriculum is rigorous and challenging, but the lecturers are supportive and encouraging. They helped me develop my critical thinking and problem-solving skills, and have provided me with the tools I need to succeed in the field of statistics. The skills and knowledge I have gained here have prepared me for success in a career as a Risk Analyst, and I would highly recommend this degree programme to anyone who is interested in pursuing a degree in this field.



Max Aidan Mulhall

*Current International Student*

Math@USM provides a great statistics programme with lecturers that are extremely knowledgeable, and the university is filled with people that have connections across a wide variety of industries and countries.



Ermina Balqis Harizan

*Current Student*

Choosing to major in Mathematics and Economics at the School of Mathematical Sciences is one of the best decisions I have ever made. Living at USM has been a lot of fun and the education at Math@USM has shown me that nothing in life is easy. If you want to have a bright future ahead of you, you've got to have what it takes. Along the way, I have stumbled upon difficulties, but the lecturers have always been there when I needed them the most. Thanks to them, I honed my decision-making skills and learned to apply my knowledge in the real world. For those who are still searching for the best path, all I can say is that Math@USM will never disappoint you. Stand tall and be a proud Math@USM student.



# MATH@USM TESTIMONY

Revin Samuel A/L James Selva Kumar

*Alumni*

Choosing to study Mathematics at Math@USM was a great decision that I made. The lecturers and staff at Math@USM provided a great learning environment, which I truly appreciate. I definitely enjoyed my university life.



Wong Siew San

*Alumni*

The time I spent at USM was indeed one of the best experiences of my life. This place gathers interesting souls, and together we learn and grow. I loved the 4 years I spent at the Math school. I personally find DK G31 to be a great lecture hall, especially the air-conditioned environment and large capacity. DK G31 allows us to enjoy enlightening lectures, not only with great lecturers delivering their knowledge, but also with intelligent souls learning mathematics the fun way. It is a two-way learning experience that is indeed wonderful.

Muhammad Asri Bin Ishak @ Mohd Nor

*Current Student*

Deciding to choose to pursue my undergraduate degree at Math@USM was definitely a choice well-made. I am able to achieve my potential in my passion and goals, thanks to the knowledgeable lecturers that have taught me both theoretical and practical mathematics. There are also many interesting activities organised by the Mathematics Society for us to gain tangible experience and skills, interact with other students, and enrich our lives.





# MATH@USM TESTIMONY

Wong Jiun Guan

*Alumni*

Learning at Math@USM is fun as I know that mathematics is not only just about calculating, it is also correlated to economics. Studying at USM is very thrilling as I can join many university activities and get to know more people. Well, the interesting part at Math@USM is that students of different backgrounds and cultures can work together to strive in their studies.



Abhineshwary Bhalraj

*Alumni*

(Math@USM PhD Candidate)

Mathematics has been my favourite subject since I was 11 years old, and choosing to study Mathematics at USM has been one of my best decisions. When life gives you lemons, make lemonade. Pursuing an undergraduate degree and a masters in Mathematics is definitely not easy. I should know as I've been here for almost 8 years. But the journey is much smoother when you have good lecturers who are willing to explain deeply until students truly understand the topic. The usage of two way teaching and learning methods as a way to engage students at Math@USM is truly inspirational. A good student-lecturer relationship, makes it easier for us to speak up when we face any difficulties. No doubt, Math@USM encourages a healthy lifestyle, teaches us important soft skills, increases our self confidence, and builds lasting friendships through student-focused activities and events.



Nafis Ahmad

*Current International Student*

Math@USM has given me the opportunity to learn and develop myself under the tutelage and care of experienced and friendly academics and staff. At the same time I am also improving my soft skills and communication skills. The pleasing ambience on campus, especially at Math@USM, has made me feel welcome. Math@USM is truly home away from home!



**WE**  **ARE MATH@USM**

# MATH@USM TESTIMONY

Genevieve Kurin

*Current Student*

B.Sc. Mathematics programme has been a roller coaster to me. Nevertheless, the experience has enabled me to develop analytical skills, communication skills and problem-solving skills. It has been an honour to learn from the dedicated lecturers of Math@USM. Not only are they superb in their fields, they are also very supportive. This helps me keep moving forward. Most courses offered at Math@USM are interesting, which makes me keep moving forward. Most of the courses offered are interesting too which always left me in awe. Thanks Math@USM!







Find all points on the graph of  $f(x) = \frac{1}{3}(x-1)^3$  for which  $f'(x)=0$  and  $f(x)$  does not exist.

$f(x) = \frac{1}{3}(x-1)^3$   
Let  $u = x-1$   
 $f(x) = \frac{1}{3}u^3$   
 $f'(x) = \frac{1}{3} \cdot 3u^2 \cdot 1 = u^2$   
 $f'(x) = 0 \Rightarrow x = 1$   
 $f'(x)$  dne  $\Rightarrow x-1=0 \Rightarrow x=1$   
The points are  $x=1$





WE ARE MATH @USM






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