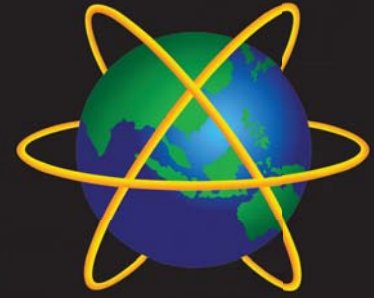


# SEE **BIG** THE **BIG** PICTURE **BIG** DATA!



**A · P · U**  
ASIA PACIFIC UNIVERSITY  
OF TECHNOLOGY & INNOVATION

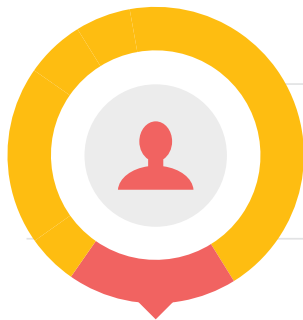
Nurturing IT Professionals  
for Global Careers

- MSc in Data Science & Business Analytics
- BSc (Hons) in Computer Science with a Specialism in Data Analytics

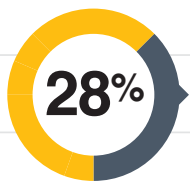


“.....THE SEXIEST JOB OF THE 21st Century”  
- Harvard Business Review

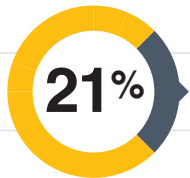
# Be a Part of the Global Big Data Revolution



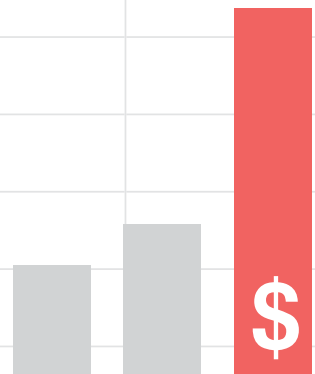
**15,000**  
Data Scientist  
by 2020



28%  
of big data job adverts  
are in banking and finance



21%  
higher salaries for big data  
staff over permanent  
non-big data staff



Highest Paid Jobs

The White House  
administration is investing

**\$200**  
MILLION

into big data  
research projects

**BIG DATA IS**  
projected to grow into a  
**\$53.4 Billion**  
market by 2017, up from  
\$10.2 Billion in 2013

**1,350,000,000**

Google search  
results for  
"What is big data?"

Source: IBM Big Data & Analytics Hub

Source: [www.mushroomnetworks.com](http://www.mushroomnetworks.com)

Graduates will be equipped with knowledge, skills and experience in three major dimensions: Strategic and Commercial application, "hands-on" ICT skills and Statistics & Analytics. The programme is not merely analytics-oriented, but develops the ability to use analytics to drive key success metrics related to yield management and revenue generation in practically any business domain. There is a tremendous requirement for Data Scientists and Big Data Specialists worldwide now and in the future, with hundreds of thousands of new job opportunities emerging globally. In Malaysia alone, by the year 2020 this need is expected to reach at least 15,000 professionals.

## The Malaysia Big Data Vision - Demand for Data Science Professionals



**Talent  
Gap**

"By the year 2020, it is envisioned that Malaysia will need to reach 15,000 Data Professionals"

- Multimedia Development Corporation (MDeC)

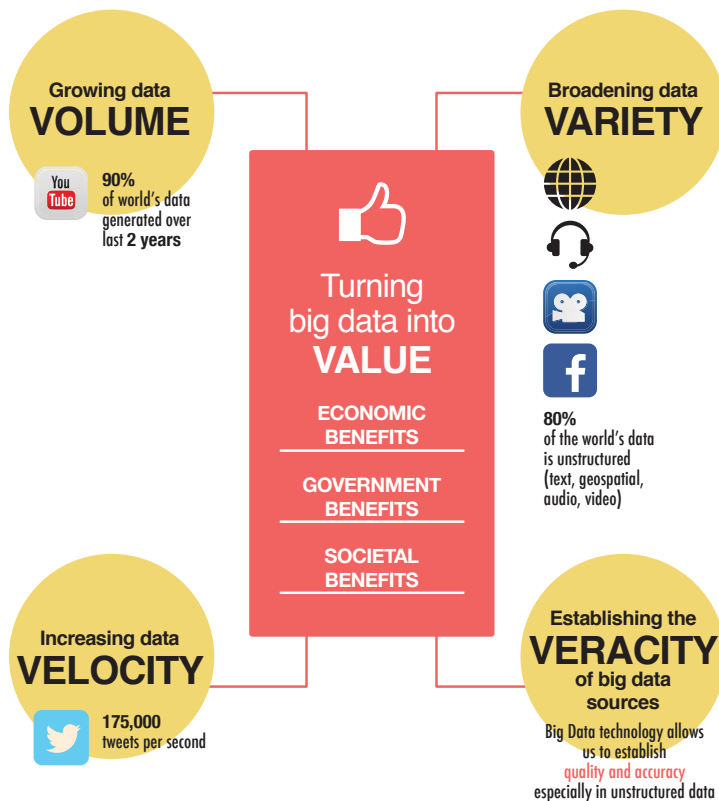
"12,000 Big Data scientists are needed within the next five years to spur Malaysia's data-driven economy"

- Higher Education Minister Datuk, Seri Idris Jusoh

"We have partnered with five universities in Malaysia to embed analytics into their computer science curriculum. Also, we are working with these universities to upgrade the syllabus to produce data scientists to address future needs"

IBM Malaysia Managing Director Paul Mounq

# Turning Big Data into VALUE - 4Vs



## Dream Big: Think BIG - Reasons to Study BIG Data:

1. "The United States alone faces a shortage of 140,000 to 190,000 people with analytical expertise and 1.5 million managers and analysts with the skills to understand and make decisions based on the analysis of big data." - *McKinsey Report on BIG DATA*
2. "Starting salaries for data scientists have gone north of \$200,000" - *Bloomberg*
3. "The Whitehouse Administration is investing \$200 Million into big data research projects" - *Mushroom Networks*
4. "Data scientists are the new superheroes," says Pascal Clement, the *Head of Amadeus Travel Intelligence in Madrid*
5. "Malaysia needs additional 12,000 Data Scientists" - *Dato Seri Idris Jusoh, Minister of Higher Education*
6. "Data Scientist: The Sexiest Job of the 21st Century." - *Harvard Business Review*

<https://hbr.org/2012/10/data-scientist-the-sexiest-job-of-the-21st-century/>

[http://www.mckinsey.com/features/big\\_data](http://www.mckinsey.com/features/big_data)

<http://www.bloomberg.com/news/articles/2015-06-04/help-wanted-black-belts-in-data>

[www.mushroomnetworks.com](http://www.mushroomnetworks.com)

Source: MDeC Presentation on Big Data from 2015 APU's Big Data Week Launch

## Data Science @ APU - FORTIFIED through PARTNERSHIPS

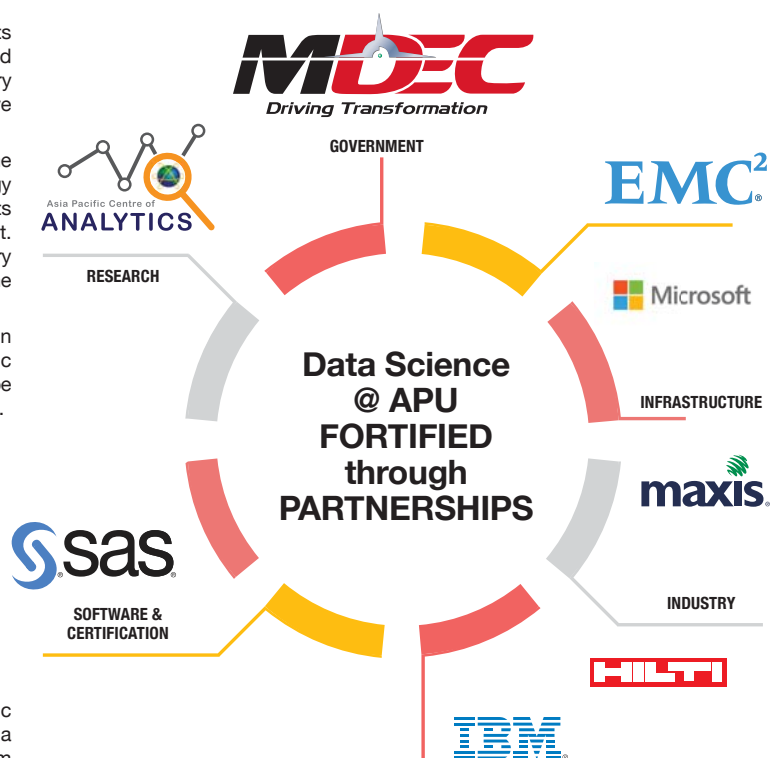
The programme has been carefully designed by APU with inputs and content from our partners, comprising major technology and software solutions providers, university partners as well as industry organisations who use analytics for strategic and competitive advantage.

The strength of these partnerships ensures that the programme comprehensively addresses all key stakeholders – Technology providers, Employers, Government as well as Students – in its learning outcomes, curriculum content, delivery and assessment. Students also obtain certification jointly issued with industry partners, which would certainly give them a head start in the exciting world of Big Data.

Furthermore, APU is also poised to become a frontrunner in analytics research through the establishment of the Asia Pacific Centre of Analytics (APCA), through which research activities will be undertaken to challenge boundaries in the application of analytics.



Graduates from this programme will not only gain an academic qualification from APU, but would also automatically attain a Globally Recognised Professional Industry Certification from SAS. Along the way, graduates would also gain exposure to industrial workshops led by experts from the industry, providing a valuable gateway into future careers.



# MSc in Data Science & Business Analytics

FULL-TIME /  
PART-TIME

KPT/JPS(N/482/7/0093)10/20

Don't miss the opportunity to be part of the **GLOBAL WAVE**

## Who Should Attend

This programme is designed to provide students with knowledge and applied skills in data science, big data analytics and business intelligence. It aims to develop analytical and investigative knowledge and skills using data science tools and techniques, and to enhance data science knowledge and critical interpretation skills. Students will understand the impact of data science upon modern processes and businesses, be able to identify, and implement specific tools, practices, features and techniques to enhance the analysis of data.

## The Benefits of this Programme

1. In addition to the degree award, a Joint Professional Certification will be offered by SAS Institute, USA.
2. 30% of the curriculum will allow for mini industrial projects assessed as in-course work allowing for practical skills development in Data Analytics.
3. The curriculum covers a wide range of subject matter from Analytical Technologies, Exposure to tools such as R & SAS Modelers, Data Visualization, Customer/User Behavioural Studies, Forecasting Methods and to Presenting the Business Intelligence reports.
4. Industrial Final Semester Capstone Project from top IT firms such as Hilti Malaysia, IBM, Maxis, InfoPro, EMC, BIIT Consulting and Fusionex.
5. External Programme Annual Reviews by experts from University of South Australia (UniSA).
6. Programme Support by an Industry Advisory Panel involving data analytical experts from Petronas ICT, RedTone, SharePoint, CyberSecurity Malaysia, Maxis, IBM, Microsoft and Xstrategize.
7. Research opportunities via APU's Centre of Analytics - APCA.

## Programme Modules

The programme comprises 14 coursework modules including Research Methodology and a Capstone Project which is covered over a 3 semester study process. Each semester is 12 weeks. There are 11 compulsory Core Modules and you will have to choose 3 electives from those listed.

### SEMESTER 1

- Big Data Analytics & Technologies
- Data Analytical Programming
- Data Management
- Business Intelligence Systems
- Behavioural Science, Social Media and Marketing Analytics

### SEMESTER 2

- Advanced Business Analytics and Visualization
- Applied Machine Learning
- Research Methodology
- Multilevel Data Analysis
- Multivariate Methods for Data Analysis

### SEMESTER 3

- Capstone Project
- Optional Modules\* (choose 3 only)
  - Natural Language Processing
  - Operational Research and Optimization
  - Time Series Analysis and Forecasting
  - Strategies in Emerging Markets

# BSc (Hons) in Computer Science with a specialism in Data Analytics

JPT/BPP(U)1000-801/63/Jld.7(17)(PA4622)06/19

This programme is designed to provide students with technical knowledge and skills of computer science with an emphasis on data analytics. It aims to develop analytical and investigative knowledge and skills using data analytics tools and techniques to evaluate and respond to opportunities for developing and exploiting new technologies with data analytics concepts. Students will understand the outcome of data analytics on current processes, be able to identify, and implement specific tools, practices, features, and techniques to enhance the analysis of data.



Awarded in Association with  
Staffordshire University

## The Benefits of this Programme

The objectives of this programme are to enable students to develop the following abilities:

- The ability to develop technical knowledge, skills and background in the design and organisation of computer systems with an emphasis on data analytics.
- The ability to critically evaluate design paradigms, languages, algorithms, and techniques used to develop complex software systems.
- The ability to evaluate and respond to opportunities for developing and exploiting new technologies with data analytics concepts and tools.

## Programme Modules

This programme comprises 33 coursework modules including Research Methods for Computing & Technology, and a Final Year Project which is covered over a 2 semester study process. Each semester is 16 weeks. There are 14 compulsory Core Modules and 19 specialised modules which highlight the Computer Science degree with specialism in Data Analytics.

### LEVEL 1

#### Common Modules

- Introduction to Management
- System Analysis & Design
- Fundamentals of Software Development
- Mathematical Concepts for Computing
- Operating Systems & Computer Architecture
- Introduction to Networking
- Introduction to Databases

#### Specialised Modules

- Introduction to C Programming
- Introduction to Data Analytics
- Behavioural Science and Marketing Analytics

*In addition to the above, all students are also required to successfully complete General Studies modules as stipulated by the Malaysian Qualification Agency, as well as fulfill credit requirements for Co-Curricular Activities.*

### LEVEL 2

#### Common Modules

- Object Oriented Development with Java
- System Development Methods
- Professional & Enterprise Development
- Creativity & Innovation
- Research Methods for Computing & Technology

#### Specialised Modules

- Computing Theory
- Data Structures
- Concurrent Programming
- System & Network Administration
- Computer Systems & Low Level Techniques
- Probability & Statistical Modelling
- Data Mining & Predictive Modelling

### LEVEL 3

#### Common Modules

- Innovation Management & New Product Development
- Project Management

#### Specialised Modules

- Algorithmics
- Real-Time Systems
- Emergent Technology
- Text Analytics & Sentiment Analysis
- Business Intelligence Systems
- Database Security
- Optimisation Concepts for Data Science
- Investigation in Computer Science
- Computer Science Projects

### INTERNSHIP

(After completing Level 2 and before the commencement of Level 3)

After completion of Level 2 students will undertake a short internship/industrial training. This will prepare them for a smooth transition from the classroom to the world of Computer Science.

# RATED No.1 IN ASIA AND MALAYSIA FOR MULTICULTURAL LEARNING EXPERIENCE

- Student Barometer Wave 2015, 'Studying with people from other cultures'

## APU'S NEW ICONIC CAMPUS

AN ULTRA-MODERN CAMPUS BUILT TODAY FOR THE NEEDS OF TOMORROW.



APU'S CAMPUS  
OF THE FUTURE  
— 2016 —

Asia Pacific University of Technology & Innovation (APU). This new Ultra-Modern University Campus in Technology Park Malaysia (TPM) is designed to be the state-of-the-art teaching, learning and research facility providing a conducive environment for students and staff. TPM is the ideal location for this new and contemporary Campus due to its strong positioning as Malaysia's primary hub for leading-edge and high-tech developments in a wide variety of areas. It is also located in one of the most rapidly developing areas in Kuala Lumpur, and is well served and accessible through major highways, LRT and other forms of public transportation.

APU's new campus being developed in phases will certainly set a new benchmark for design excellence among Malaysian Universities, combining an eco-friendly campus with a dynamic blend of technology and innovation to enable professional learning. It will be a magnificent teaching & learning space for our Students & Staff designed by our award-winning architects & consultants. *(All illustrations are artist impressions)*



Asia Pacific University of Technology & Innovation (APU) Company no. 672203-A | Asia Pacific Institute of Information Technology (APIIT) Company no. 260744-W  
(A Member of the APIIT Education Group)

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[www.apu.edu.my](http://www.apu.edu.my) / [www.apiit.edu.my](http://www.apiit.edu.my)

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