360 DigiTMG
Digital Transformation | Management | Governance

Best Dual Certification Programmes for

Full Stack Data Science

Certificates Awarded by UTM, IBM & 360DigiTMG

UTM UNIVERSITI TEKNOLOGI MALAYSIA | School of Professional and Continuing Education (SPACE)

IBM

360 DigiTMG
Digital Transformation | Management | Governance

Duration

Executive Program - 9 Months
Professional Diploma - 12 Months

Mode : Blended

Classroom & Virtual

Eligibility Criteria

Executive Program

- College degree in STEM related fields. Science / Statistics / Mathematics / IT / Physics / Software Technology & Business
- No programming knowledge needed
- 40% score in eligibility test

Professional Diploma

- Age: 21 years and above
- Min 3 years experience in any industry
- Min SPM / STPM

Key Features

- 15+ Live Webinars every month
- 3 Months Stipend for Freshers & Students
- Easy Payment Options Available
- Life-Time access to LMS
- Personal Mentorship
- 40+ In Demand Skills & Tools

100% Job Assurance

40 Hours Industry Placement Training

10+ Real Time Projects

16 Unique Domain Centric electives

3 International Certificates

1 Capstone Project

Synopsis

This is a 9 to 12 months dual certification programme which is blended training. This includes handling Data related projects end to end, including Data Generation, Data Collection (SQL, NoSQL, Big Data, IoT Sensors, Cloud), Data Cleansing /Preparation to EDA / Descriptive Statistics, Feature Engineering, Feature Extraction, Feature Selection, Model Building, Data Mining Supervised Learning, Unsupervised Learning, Predictive Modeling, Forecasting, Data Optimization, Data Simulation, Deep Learning, Neural Networks, Artificial Intelligence, Data Visualization, Deploying Solution into Production, Data Privacy and Data Security along with devising model maintenance and upgradation strategies. Right from generating to collecting data to analyzing data to visualizing data and finally deploying the data in production alongside maintenance.

Objective

The Full Stack Data Science Programme equips data professionals with deep conceptual understanding of and hands-on training in all the advanced tools and techniques needed to make data-driven business decisions. The core course modules have been designed to suit different job profiles - data administrators, business analysts, data analysts, data engineers, data architects and data scientists. Students and Working Professionals can also pick from a wide range of elective modules for industry or function-specific data analytics such as fraud analytics, customer analytics or retail analytics.

Learning Outcomes

Understand end to end implementation of projects in the space of emerging technologies including Industrial IoT sensors to generate, Cloud Computing to store the data, classify on whether data is structured data or unstructured data & store the data appropriately, ensuring that the data is secured from external as well as internal miscreants and many more. Most important applying the best practices of handling the projects using well defined project management methodologies.

Handle Data Science, AI, IoT, Cloud projects using a structured project management methodology

Configure IoT devices to generate data

Store the data on Cloud

Build algorithms using data stored on cloud

Build & deploy AI driven applications

Be able to handle both structured as well as unstructured data

Be able to handle what-if analysis for management decision making

Secure the data & adhere by data privacy norms

Comparison Between Professional Diploma and Executive Program in Full Stack Data Science

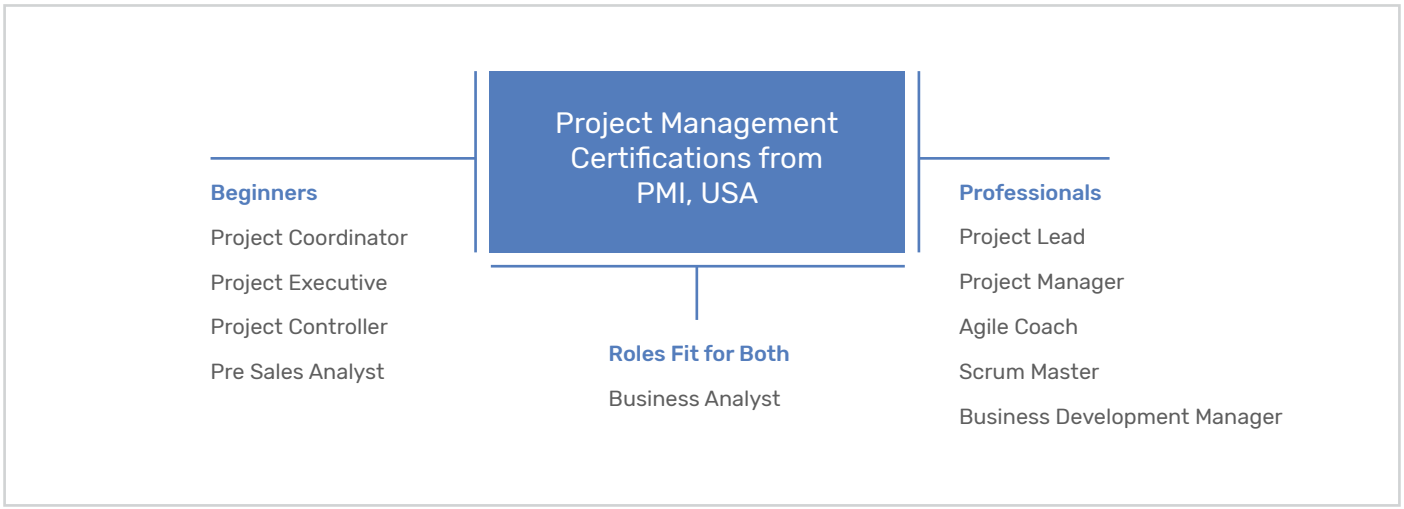
Program	Executive Program	Professional Diploma
Duration	9 Months	12 Months
EPF Withdrawl	No ✗	Yes ✓
PTPTPN	NO ✗	NO ✗
HRDF Claimable	Yes ✓	Yes ✓
Scholarships (Upto 20%)	Yes ✓	Yes ✓
Course Fee Includes	Application fee, Certifications, LMS and Placement training and convocation Fee	Application fee, Certifications, LMS and Placement training and convocation Fee
Internaltional Certifcation	**360DigiTMG** - Executive program **UTM Malaysia** - Professional Certificate **IBM** Course completion	**360DigiTMG** - Executive program **UTM Malaysia** - Professional Diploma **IBM** Course completion
Mode of Training	Blended - Live and Classroom	Blended - Live and Classroom
Course Content & Structure	View Program Brochure	View Program Brochure
Schedule	View Schedule	View Schedule
Life-Time access to LMS	Yes ✓	Yes ✓
In Take / Start date	One in Quarter	3 In a year (but you can join in Excutive and continue to Professional Diploma Intake)
Advantages	Fast and cheaper	• Wolrds 182th rank University Certificate • Eligible for Dual Certificates Executive and Professional Diploma • Malaysians can withdraw EPF money

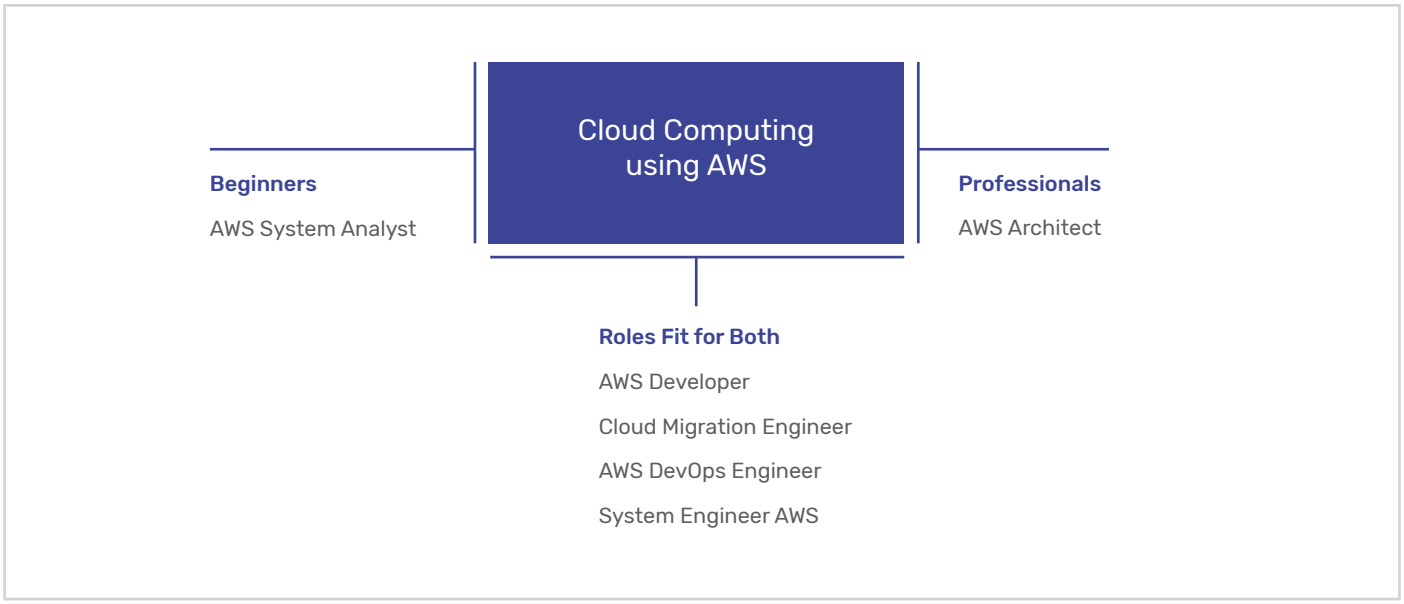
Course Fee	Standard Instalments	Single Shot (10% discounts)	RHB Credit Card holders (20% discounts)
Executive Program **RM 18000**	RM 2000 per month - 9 months	RM 16200 One Shot	RM 1200 per month - 12 months
Prof Diploma **RM 23000**	RM 2555.55 per month - 9 months	RM 20700 One Shot	RM 1533.33 per month - 12 months

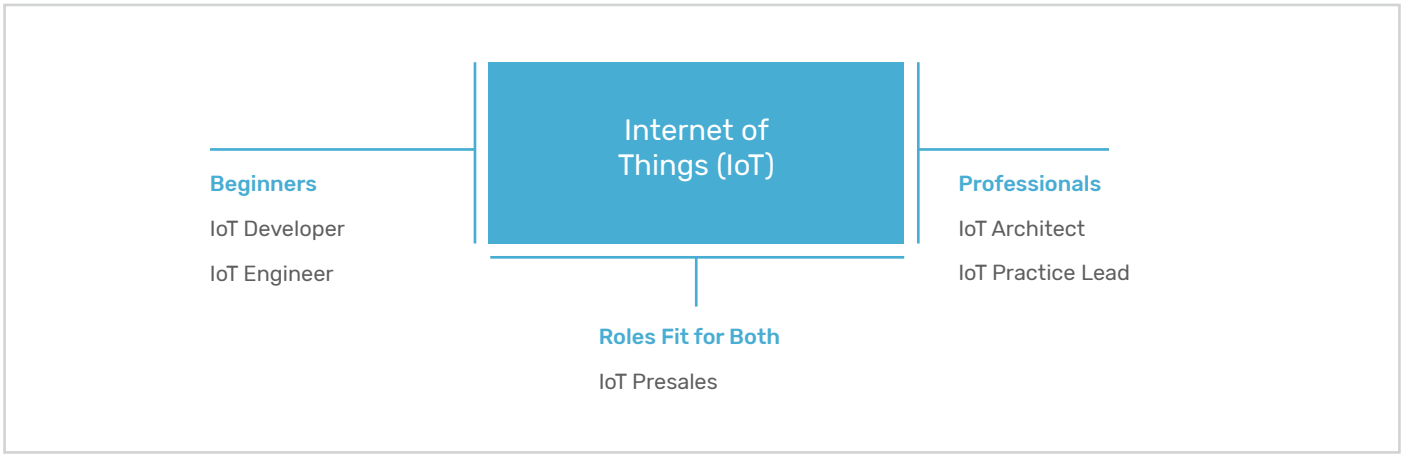
* 6% SST Applicable

Full Stack Data Science Learning path

Chart your career with core modules designed for different roles







SQL for Structured & NoSQL for Unstructured Database

Beginners

-

Professionals

Database Architect

Roles Fit for Both

SQL Developer

Database Administrator

SQL Server

Database Developer

NoSQL Specialist

Big Data using Hadoop & Spark

Beginners

Big Data QA Analyst

Professionals

Big Data Architect

Big Data Lead

Hadoop Lead

Full Stack Engineer

Roles Fit for Both

Big Data Developer

Data Engineer

Bigdata Engineer

Hadoop Developer

Big Data Administrator

Data Science and Artificial Intelligence (AI)

Beginners

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Professionals

AI Scientist

Roles Fit for Both

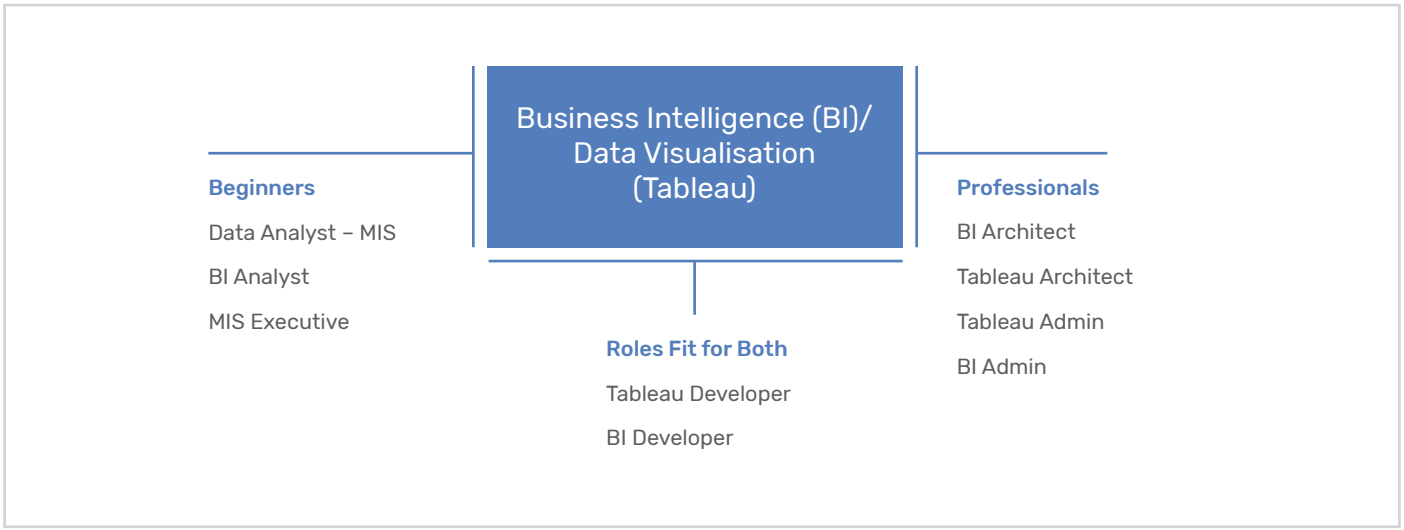
Data Scientist

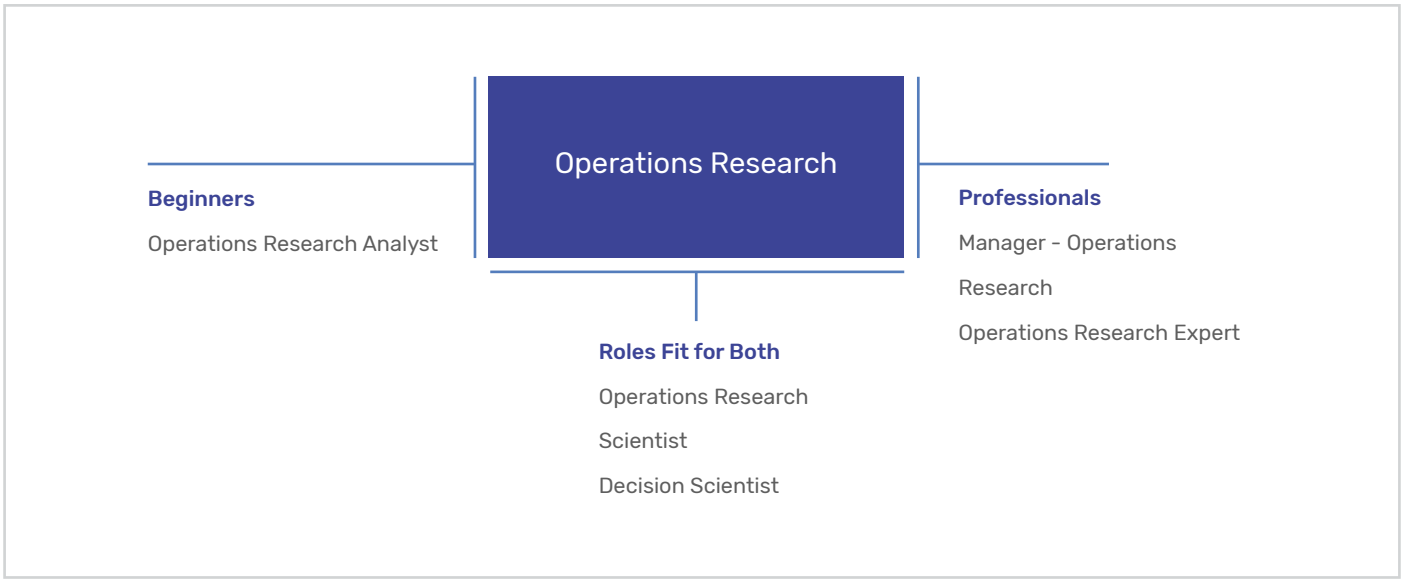
Data Engineer

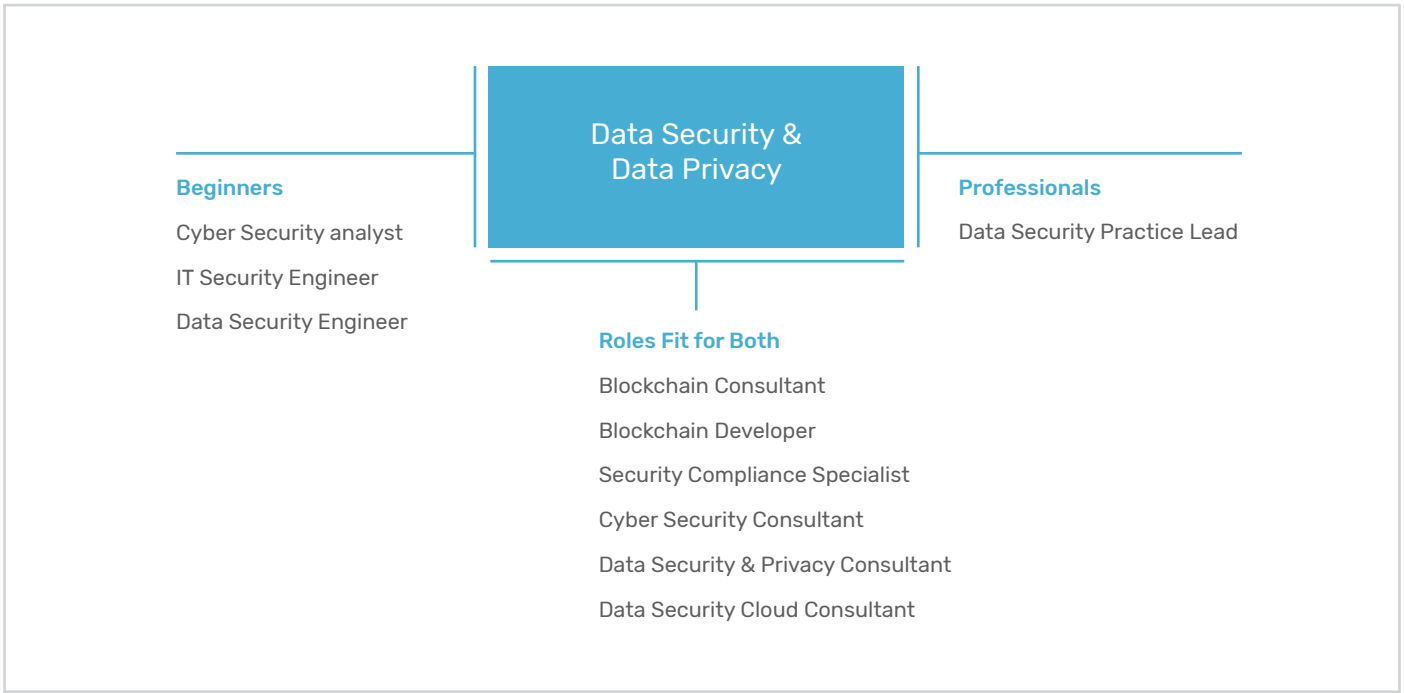
Deep Learning Engineer

Deep Learning Developer

Machine Learning Developer


Business Intelligence (BI)/ Data Visualisation (Tableau)
Beginners
Data Analyst – MIS
BI Analyst
MIS Executive
Professionals
BI Architect
Tableau Architect
Tableau Admin
BI Admin
Roles Fit for Both
Tableau Developer
BI Developer


Operations Research
Beginners
Operations Research Analyst
Professionals
Manager - Operations Research
Operations Research Expert
Roles Fit for Both
Operations Research Scientist
Decision Scientist


Data Security & Data Privacy
Beginners
Cyber Security analyst
IT Security Engineer
Data Security Engineer
Professionals
Data Security Practice Lead
Roles Fit for Both
Blockchain Consultant
Blockchain Developer
Security Compliance Specialist
Cyber Security Consultant
Data Security & Privacy Consultant
Data Security Cloud Consultant

Course Module and duration

MODULES		DURATION (CONTACT HOURS)	ASSIGNMENT DURATION	PROJECT DURATION
1 Introductory session to the Masters program	Self Paced	4	-	-
2 Project Management Agile Certified Practitioner (ACP) • Risk communication • Plan risk management • Identifying project risks • Perform qualitative risk analysis • Perform quantitative risk analysis • Plan risk responses • Monitor and control risks • Tips and tricks for the PMI-RMP certification exam	Self Paced	16	-	-
3 Database Management SQL for Structured Database • Installation Procedure of MySQL. • SQL Languages - DDL, DQL, DML, DCL • Database Normalisation • Primary Key, Foreign Key & Composite Key Core Concepts • Establishing Connection from SQL - R & Python and usage • Import and Export of mass Data in different formats	VILT	16	60	60

NoSQL for Unstructured Database

- Introduction to NoSQL
- NoSQL Data Models
- Difference between SQL vs NoSQL
- Column Oriented DataBase
- Different Examples of NoSQL
- Introduction to HBase on HDFS
- HBase Components
- Regions within a RegionServer
- MemStores and HFiles within a Region
- Hands-On

4 Internet of Things (IoT)

VILT

24 | - | -

- Introduction to IoT
- IoT development boards
- Data representation and serial communication
- Build an obstacle counter
- Design an IoT device
- IoT protocols
- About the ESP8266 family
- Talkback
- An IoT gateway – Raspberry Pi
- IoT friendly architectures
- IoT Middleware - MQTT, AMQP, CoAP
- Cloud computing with Azure
- Azure IoT hub
- Configure service endpoint on Azure
- Sending data to power business intelligence
- Challenges faced by IoT
- Description: overview of machine learning

5 Cloud Computing	VILT	40	80	80

Cloud Computing using AWS

- AWS History
- AWS global infrastructure details
- EC2
- Netwroking and content Delivery
- Storage Services
- Relational Data base Service
- Identity and Acess Management
- AWS AWS route 53
- AWS Monitoring & Notification

Machine Learning on Cloud

- Introduction to cloud computing and models
- Brief introduction to AWS
- Compute services in AWS - elastic compute cloud
- Storage services offered by AWS
- Security features through identity and access management
- AWS Relational Database Service and Redshift
- Machine learning using Amazon SageMaker
- NLP and text mining using Amazon Comprehend
- Building a prediction model using machine learning service
- Amazon QuickSight

6 Data Science using Python & R VILT • Application of Data Science Across Industries, Sectors and Domains • Project Management Overview of Handling Data Science Projects • Data Preparation, Data Cleansing, Exploratory Data Analysis • Feature Engineering, Feature Extraction, Feature Selection • Hypothesis Testing, Regression Techniques • Predictive Modelling Using Advanced Regression Techniques • Data Mining Unsupervised - Clustering, Association Rules etc. • Text Mining, Natural Language Processing • Data Mining Supervised/Machine Learning Algorithms • Black Box Techniques – Neural Networks, SVM etc. • Time Series Analysis/Forecasting	48	80	80
7 Artificial Intelligence & Deep Learning VILT • Introduction to AI and Deep Learning • Introduction to Python Libraries - Keras, Tensorflow, Opencv • Perceptron Algorithm, Back Propagation Algorithm • Artificial Neural Network, Multilayer Perceptron • Convolution Neural Network • Image Processing and Computer Vision • Recurrent Neural Network • Long Short Term Memory • Gated Recurrent Unit • Autoencoder, Restricted Boltzmann Machines • Deep Belief Networks • Generative Adversarial Networks • Reinforcement Learning and q-learning	24	60	60

8 Big Data using Hadoop & Spark Self Paced • Introduction to Hadoop and Hadoop framework • Introduction to Linux and installation of Hadoop • Hadoop Distributed File System • MapReduce • Pig Programmes • Hive Programmes • HBase for storing data • Practical applications of Sqoop • Spark and associated ecosystem	24	-	-
9 Business Intelligence/ Data Visualization (Tableau) VILT • Data visualisation - introduction and concepts • Tableau - introduction and architecture • Exploring data using Tableau • Working with data using Tableau including data extraction and blending • Charts in Tableau • Tableau filtering • Tableau groups, sets, calculations, LOD expressions • Tableau mapping features • Tableau dashboard and story	24	60	60
10 Operations Reasearch Self Paced Data Optimization • Introduction to applications of Data Optimization • Formulating Linear Programming Models • Solving Linear Programming problems using Graphical as well as Simplex methods	24	-	-

- Resource-Allocation problems
- Cost-Benefit-Trade-Off problems
- Economics of Duality
- Sensitivity Analysis
- Transportation, Transhipment, Shortest Path problems
- Maximal Flow, Minimal Spanning Tree problems
- Location problems and Portfolio Optimization

Data Simulation

- Introduction to applications of Data Simulation
- Types of probability distributions and Random number generators
- Monte Carlo Simulation, Hedging with PUT option, Cash Flows
- Techniques for generation of Random Variates
- Forecasting the Prices
- Demand Estimation
- Sell, Abandon, Switch, Expand options
- Discrete Event Simulation – Single Queuing System
- Queuing Theory – Transient and Stationary phases

11 Data Security & Data Privacy

Self Paced

24 | - | -

- Overview of Data Security
- Information Security
- Managing Risks
- Protecting and Securing Data
- Protecting and Securing Information
- Certifications of Data Security

12 Domain Analytics

Self Paced

16 | 40 | 40

There are 16 modules. 2 modules can be chosen from these 16 modules.

Exclusive Course Module from IBM

- Introduction to Data Science
- Machine Learning with Python
- Big Data 101
- IBM Cloud Essentials
- Build Swift Mobile Apps with Watson AI Services
- Data Privacy Fundamentals

Our Panel of Coaches

Bharani Kumar Depuru

Director - Innodatatics Inc.,USA

Digital Transformation
Industrial Revolution 4.0 Implementer

Sharat Kumar Manikonda

Vice President Analytics
360DigiTMG & Innodatatics., USA

Data Scientist – Research in Analytics, Big Data, Deep learning

Dr. Nitin Mishra

Data Scientist,

Senior Consultant, Change management

Bhargavi Kandukuri

Senior Tableau Developer
Innodatatics Inc., USA

S Swaroop

Director – 360DigiTMG, USA

Data Science | Artificial Intelligence

M V S Prasad

Certified Cloud Solution Architect

DataScientist - 360DigiTMG & Innodatatics Inc., USA

Select an elective module and add more value to your profile

Function-Centric Modules (16 hours)

MODULES	DURATION (CONTACT HOURS)	ASSIGNMENT DURATION	PROJECT DURATION	CAPABILITIES INCLUDE (NOT AN EXHAUSTIVE LIST)
Supply Chain Analytics	16	40	40	Planning optimisation, sourcing decision-making, manufacturing optimisation, distribution and order fulfilment
Fraud Analytics	16	40	40	Spam detection, fraud prevention, loan default prediction
Social Media and Web Analytics	16	40	40	Tracking of buyer journey, customer sentiment analysis, social engagement analysis and monitoring
Marketing Analytics	16	40	40	Marketing mix modelling, competitor analysis, pricing analysis, demand forecasting
Customer Analytics	16	40	40	Buyer behaviour prediction, customer segmentation, voice of the customer study
HR Analytics	16	40	40	Employee churn prediction, workforce planning, top talent identification
Accounting / Internal Auditors Analytics	16	40	40	Financial planning and forecasting, fraud detection, trends analysis, risk assessment
Cyber Security Analytics	16	40	40	Threat intelligence, network, endpoint & cloud data analysis, behavioural modeling, compliance monitoring

Industry Domain-specific Modules (16 hours)

MODULES	DURATION (CONTACT HOURS)	ASSIGNMENT DURATION	PROJECT DURATION	CAPABILITIES INCLUDE (NOT AN EXHAUSTIVE LIST)
Financial Analytics	16	40	40	Personalisation of banking, customer segmentation, customer risk scoring
Retail Analytics	16	40	40	Customer trends analysis, inventory planning, loyalty programme management, category management
Sports Analytics	16	40	40	Strategy formation, optimisation of exercise programmes, brand engagement
Oil & Gas Analytics	16	40	40	Production optimisation, asset management, failure and bottleneck prediction
Telecommunication Analytics	16	40	40	Operational efficiency, risk management, fraud prevention
Manufacturing Analytics	16	40	40	Supply chain optimisation, quality management, predictive maintenance
Health Care Analytics	16	40	40	Hospital operational efficiency, health risk identification, accuracy of treatment protocols
Automotive Analytics	16	40	40	Inventory and supply chain logistics, production planning, demand forecasting, cost optimisation

Industry Placement Training

- Life Time Access to LMS
- 100% Placement Assurance
- Live Free Webinars
- Complimentary Courses
- Resume and LinkedIn Review Sessions
- Unlimited Mock Interview and Quiz Session
- Offline Hiring Events
- Networking Sessions
- RM 500/M Stipend for 3 months for performing candidates (Conditions Apply)
- Personalised Industry Mentorship

Live Projects in Support with

INNODATATICS Innovation • Data • Analytics

IBM

Coca-Cola

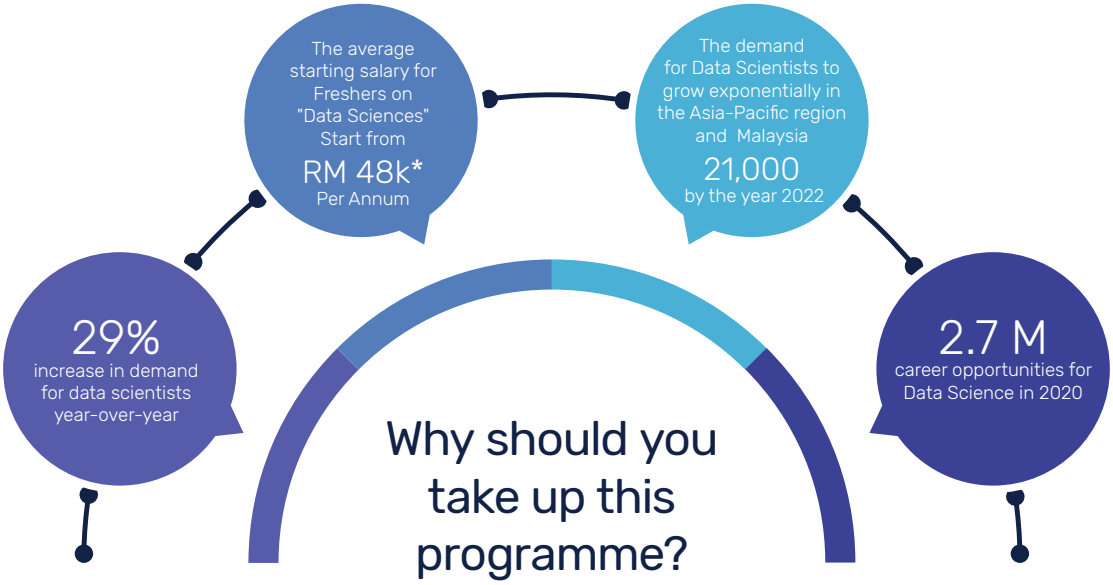
Panasonic

International Certificate

Our program comes with globally recognized University Technology Malaysia (UTM) at course level to showcase your knowledge and skills in Data Science. Get Certified by IBM and UTM, Malaysia

Professional Certification in Data Science & AI

Certificate from UTM, Malaysia



Earn These Complimentary Certifications*

Tableau Desktop Certified Specialist	TUV SUD Certified Data Scientist	Lean Six Sigma Green Belt (TUV SUD)

* Conditions Apply - Not Applicable if taken in Discounts

Opt for These Additional Certifications

AWS Cloud Practitioner	Project Management Professional (PMP)®	CAPM® from PMI	CCA Spark & Hadoop Developer
CCA Data Analyst	AWS Solution Architect	Tableau Desktop Certified Associate	ISO 27001 Lead Implementer

Our Alumni Work At

Lee Cheong Loong

Project Management Advisor

6Biz Malaysia

Wan Muhamad Taufik

Associate Data Scientist

Digi Telecommunications

Venu Panjarla

AVP Technology

Margdarshak

Pavan Satya

Senior Software Engineer

IBS Software

Chetan Reddy

Data Scientist

HTC Global Services

Santosh Kumar

Business Intelligence Analyst

Dell Technologies

Kadar Nagolu

Data Scientist

Verizon

Gowtham R

Data Engineer

Saturam Infosystems private limited

Weekly Commitment

16-32	5-8	5-8	16
hours per week	hours of asynchronous learning	hours of assignments & Projects	Contact Hours training per week

Industry Trends

3+Years Experience on "Data Sciences" can easily fetch salary up to

RM 180K

Average Hike for "Data Scientist" stands at

34% to 50%

HRDF Claimable

Claimable

HRDF Approved Training Provider (MyCoID 1265527-M). Full Stack Data Scientist course is HRDF claimable for employees of companies who are registered with HRDF. Kindly check with your company HR department to confirm. You can contact our coordinators about the benefits available to you.

Note:

- This curriculum is subject to change based on inputs from Industry and Innodatatics Inc, USA;
- All Capstone & Assignment Durations are estimated based on an Average student pace & speed;
- For details schedule break up, please contact respective learning centers in your location
- All Contact hours schedules are available in both classroom and Live Online Training

KWSP EPF

Employee Provident Fund (EPF) can we withdrawn from the ACCOUNT II to pay the course fee.

Before applying for withdrawal under this scheme, EPF members are required to check the balancein Account II and obtain an offer letter from us.

Have questions about how it fits in with your career goals?
Speak to our program advisor

+60 19-383 1378 info@360digitmg.com 360digitmg.com

Check your Eligibility

Innodatatics Sdn Bhd (1265527-M) Level 16, 1 Sentral,
Jalan Stesen Sentral 5, KL Sentral, 50740, Kuala Lumpur, Malaysia.