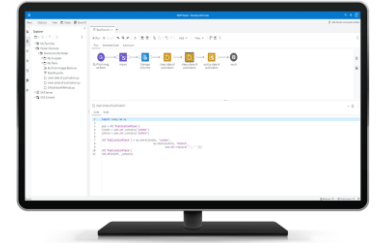


SAS - MSc DATA SCIENCE & CYBERSECURITY ACADEMIC SPECIALIZATION IN BUSINESS AND DATA ANALYTICS

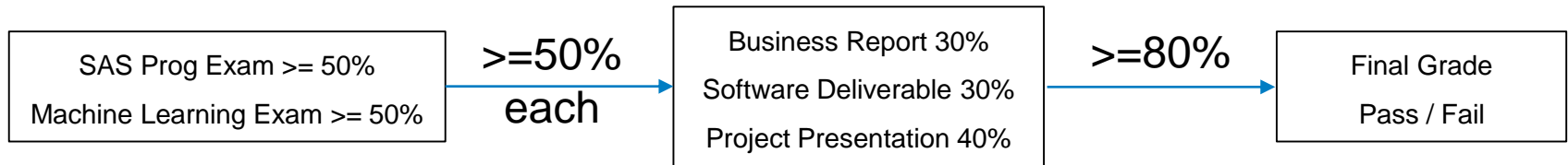


Specilization/ Certificate Contents

- ⇒ Access, Management and Processing of Data Using SAS Programming on SAS Studio - Viya.
- ⇒ Visualization and Reporting Using SAS Visual Analytics - Viya.
- ⇒ Machine Learning (Pattern Discovery & Predictive Analytics) Using SAS Visual Data Mining and Machine Learning - Viya.



- Access, Manage, Process and Report data from a real - world organization by using SAS Programming and SAS Visual Analytics to help the organization make decisions.
- Use SAS Visual Data Mining and Machine Learning to help the organization apply Market Basket Analysis for next best offer decisions, segment their customer base using RFM analysis and identify good customers using predictive analytics.



SAS ACADEMIC SPECIALIZATION

SAS CERTIFICATE AND BADGE FOR SOCIAL MEDIA



SAS[®] Joint Academic Programs 

Analytical talent is in short supply and high demand in today's business world. SAS seeks to bridge that gap by partnering with universities that offer SAS[®] joint academic programs. All of the programs listed were approved under the requirements for either the SAS Joint Certificate or the SAS Master's Program. These programs all will be evaluated under the new SAS Academic Specialization criteria in the coming year.

American College of Greece - Deree Business Analytics and Data Mining	Asia Pacific University of Technology and Innovation (Malaysia) Data Analytics
American University Master of Science in Analytics	Asia Pacific University of Technology and Innovation (Malaysia) Data Science and Analytics
American University of Science and Technology (Lebanon) Data Science and Big Data	Asia Pacific University of Technology and Innovation (Malaysia) MSc in Data Science and Business Analytics
Amity University Advanced Business Analytics, Business Analytics	Asia Pacific University of Technology and Innovation (Malaysia) MSc in Data Science and Business Analytics
Anáhuac University (Mexico) Advanced Business Analytics	Asia Pacific University of Technology and Innovation Data Science and Business Analytics
Analytics Institute of Australia SAS Academic Specialisation in Analytics; SAS Academic Specialisation in Business Transformation;	Asia Pacific University of Technology

Capella University Bachelor of Science, Minors Data Analytics, Data Management, and Business Intelligence	Dakota State University Business Analytics
Capella University Data Mining Analytics	Dankook University (South Korea) Data Science
Capella University Master of Science in Analytics	De Montfort University (United Kingdom) Statistical Modeling
Centennial College (Canada) Marketing Research and Analytics, Health Informatics Specialization, Marketing Research Specialization, Business Analytics Specialization	De Montfort University (United Kingdom) Business Intelligence Systems and Data Mining; Data Analytics
Central Michigan University Data Mining	De Montfort University (United Kingdom) MSc Business Intelligence Systems and Data Mining
Central Michigan University Master of Science in Applied Statistics and Analytics	De Montfort University (United Kingdom) MSc Data Analytics
Charles University (Czech Republic) Advanced Demographics Analytics	DePaul University Master of Science in Marketing Analysis
City University of Hong Kong Data Analysis; SAS Programming; Data Mining; Statistical Methods	Doshisha University (Japan) Data Science
Clarion University of Pennsylvania Applied Data Analytics	Duke University Population Health Analytics
	D'Youville College M.S. in Business Analytics

SAS ACADEMIC SPECIALIZATION

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COURSE CONTENTS

DATA ANALYTICS PART



Lecture 1

- Introduction to Data Driven Decision Making Using Analytics and Artificial Intelligence.
- Introduction to Machine Learning.
- Overview of SAS Viya

Lecture 2

- Association Rules (Market Basket Analysis) with Applications in the Retail and Banking Sector.
- Introduction to Predictive Modelling.
- A Case Study for Customer Targeting in a Non - Profit Organization.
- Accessing, Exploring and Correcting Data for Predictive Modelling Purposes.

Lecture 3

- Theory and Mechanics Behind Decision Trees.
- Application of Decision Trees in SAS Visual Data Mining and Machine Learning.
- Case Study for Customer Targeting in the Retail Sector (Super Market)..

Lecture 4

- Model Assessment in Predictive Modelling.
- Scoring New Data in Predictive Modelling.

Lecture 5

- Clustering with Applications in Customer Segmentation.
- Introduction to RFM (Recency - Frequency – Monetary) Analysis.
- A Case Study for Customer Segmentation from the On – Line Retail Sector.
- Profiling of the Customer Segments.
- The Mechanics of K – Means and Ward Clustering Algorithms.

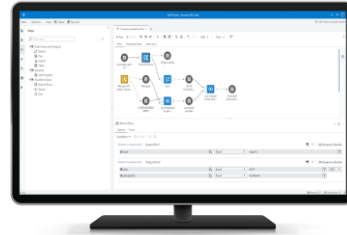
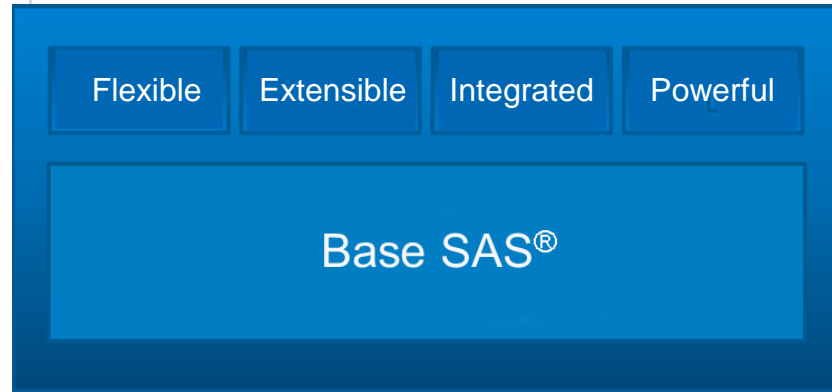
COURSE CONTENTS

DATA MANAGEMENT PART

USING SAS PROGRAMMING



Base SAS is the centerpiece of all SAS software.



Base SAS is a product within the SAS Foundation set of products that provides

- a highly flexible and extensible fourth-generation programming language
 - a rich library of encapsulated programming procedures
 - a graphic user interface for administering SAS tasks

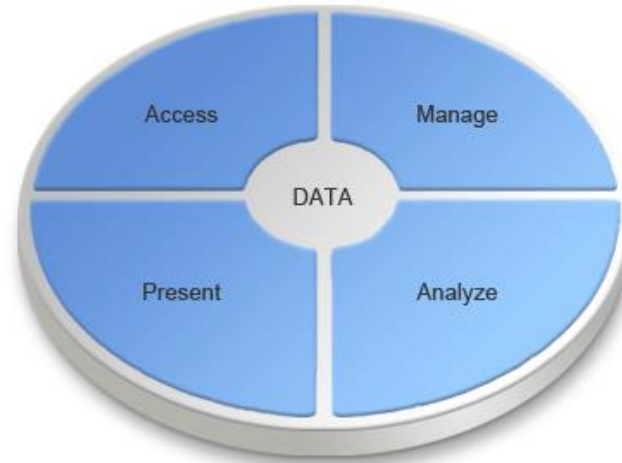
Base SAS software enables you to do the following:

Access data across multiple sources

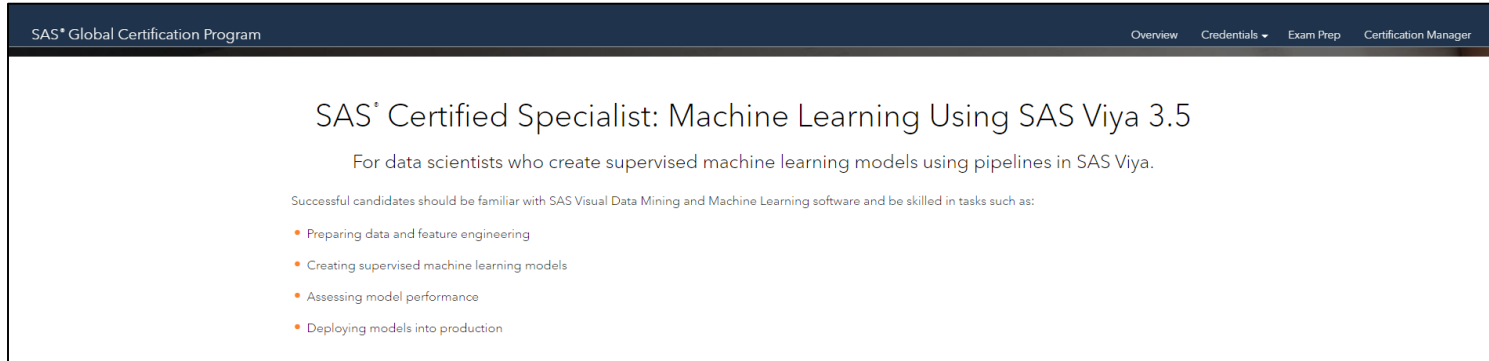
Manage data

Perform sophisticated analyses

Deliver information across your organization



Participants in the SAS - MSc DS and CS UniPi Certificate/ Academic Specialization program will have the opportunity to also attempt the professional certification of SAS entitled **"SAS® Certified Specialist: Machine Learning Using SAS Viya 3.5"** during an exam that will be held on campus.



SAS® Global Certification Program

Overview Credentials Exam Prep Certification Manager

SAS® Certified Specialist: Machine Learning Using SAS Viya 3.5

For data scientists who create supervised machine learning models using pipelines in SAS Viya.

Successful candidates should be familiar with SAS Visual Data Mining and Machine Learning software and be skilled in tasks such as:

- Preparing data and feature engineering
- Creating supervised machine learning models
- Assessing model performance
- Deploying models into production

THANK YOU!

