midwest
COLLEGE

EXEED
ecx
YOUR GLOBAL VARSITY

Advanced Program in
# Data Science

▶▶▶

INDEX

ABOUT
EXEED ECX

Exeed ECX is a spin-off of Exeed College - a prestigious entity of higher learning and executive education from Westford Education Group. Exeed ECX provides a unique learning method through its satellite centres via blended learning.

Exeed ECX, with its world-class academics, has accreditation and partnerships with the world's premium universities and awarding bodies. Plymouth Marjon University is a top-ranked, accredited university in the UK that collaborated with Exeed ECX. Other major universities collaborating with Exeed ECX are Universidad Católica de Murcia (UCAM) in Spain, Acacia University in the USA, and GEX Business School in France.

Apart from this, our parent organisation Exeed College has tie-ups with universities across the globe – UCAM (Spain), Liverpool John Moores University (UK) and Carolina University (US) as well as with professional accreditation bodies like Scottish Qualifications Authority (SQA), Chartered Management Institute (CMI), Society for Human Resource Management (SHRM) and Cambridge International Qualification to provide globally recognised qualifications
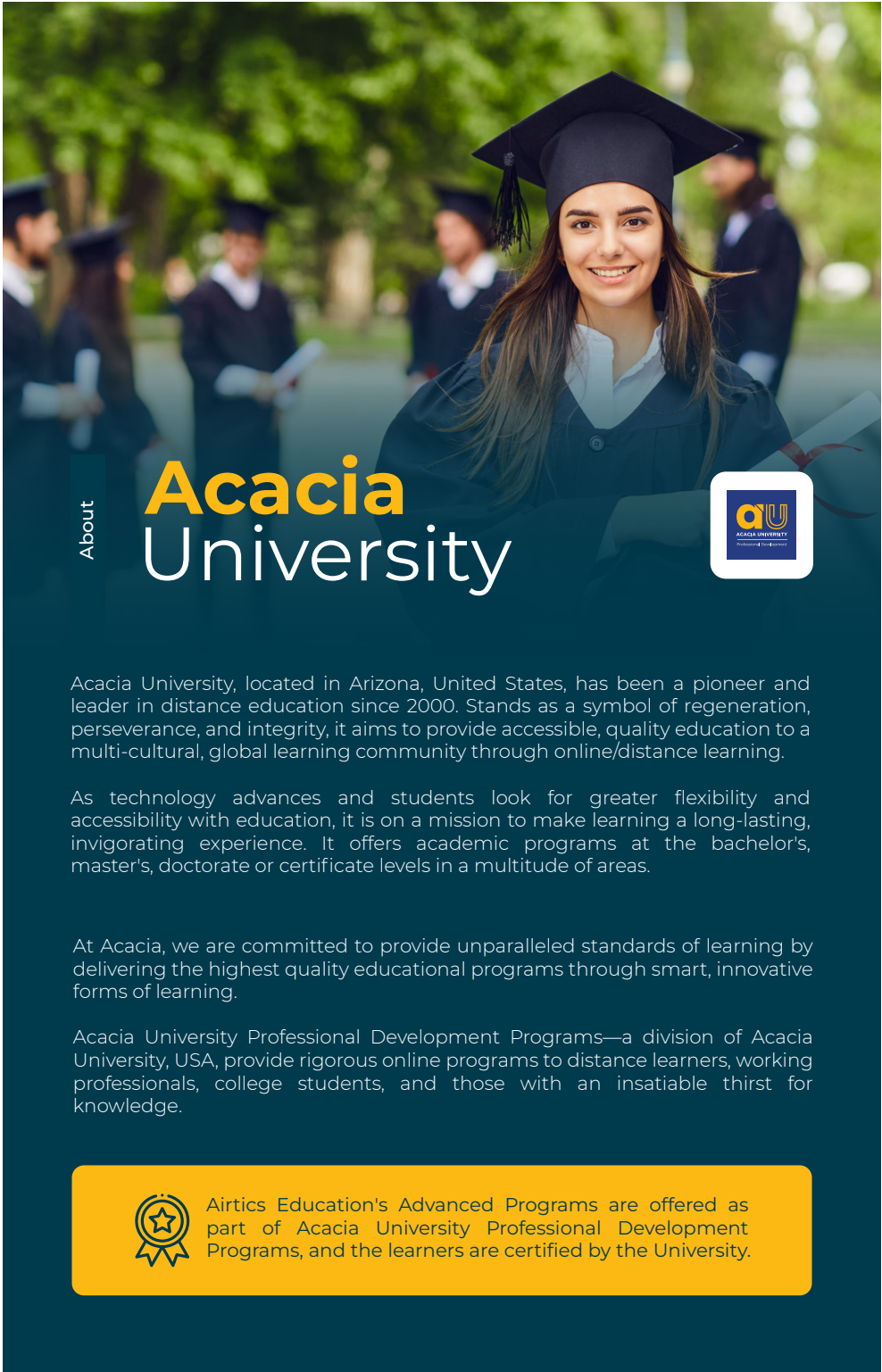
Acacia
University

Acacia University, located in Arizona, United States, has been a pioneer and leader in distance education since 2000. Stands as a symbol of regeneration, perseverance, and integrity, it aims to provide accessible, quality education to a multi-cultural, global learning community through online/distance learning.

As technology advances and students look for greater flexibility and accessibility with education, it is on a mission to make learning a long-lasting, invigorating experience. It offers academic programs at the bachelor's, master's, doctorate or certificate levels in a multitude of areas.

At Acacia, we are committed to provide unparalleled standards of learning by delivering the highest quality educational programs through smart, innovative forms of learning.

Acacia University Professional Development Programs—a division of Acacia University, USA, provide rigorous online programs to distance learners, working professionals, college students, and those with an insatiable thirst for knowledge.

Airtics Education's Advanced Programs are offered as part of Acacia University Professional Development Programs, and the learners are certified by the University.

ADVANCED PROGRAM IN
DATA SCIENCE

Overview

The program introduces participants data manipulation and cleaning techniques using the popular python pandas data science library and introduce the abstraction of the Series and Data Frame as the central data structures for data analysis.

Course Duration: **6 Months** | Course Modules: **4 Modules**

PROGRAM STRUCTURE

Module 1

PYTHON FOR DATA SCIENCE

30 HOURS

PYTHON BASICS	PYTHON LIBRARIES
◢ Variable and data types	◢ Numpy
◢ Conditional statements	◢ Matplotlib
◢ Loops	◢ Pandas
◢ Functions	

Learning Outcomes

LO1: Learning python structure and how to write programs in it

LO2: Basic concepts of Python, its syntax, functions and conditional statements

LO3: Acquire the prerequisite Python skills to move into specific branches - Machine Learning, Data Science

LO4: Understand packages to enable them to write scripts for data manipulation and analysis

Module 2

MATHEMATICS & STATISTICS FOR DATA TREATMENT

10 HOURS

LINEAR ALGEBRA	STATISTICAL TOOLS
PROBABILITY	◢ CSV
STATISTICS	◢ Excel

Learning Outcomes

LO1: Introduce statistical tools for working with datasets

LO2: Learn the essentials of probability and statistics for data analysis & visualisation

LO3: Know how to import and clean data using libraries like NumPy and Pandas for data exploration and analysis

LO4: Learning to fix incorrect, corrupted, incorrectly formatted, duplicate, or incomplete data within a dataset

Module 3

DATA CLEANING AND PRE-PROCESSING   20 HOURS

ANALYSIS LIBRARY	DATA FRAMES
◢ Pandas	STANDARDIZATION
DATA COLLECTION	NORMALIZATION
DATA CLEANING AND PRE-PROCESSING	

Learning Outcomes

LO1: Explore the Basic Understanding of Pandas library

LO2: Develop your programming skills with fundamental tools

LO3: Discover how to use pandas to streamline data cleaning and pre-processing

LO4: Learn how to create data frames and series in pandas

LO5: Analyze the process of collecting, cleaning, and pre-processing data

LO6: Learn how to select data using Pandas

Module 4

INTRODUCTION TO MACHINE LEARNING
10 HOURS

SUPERVISED LEARNING	GIT VERSION CONTROL SYSTEM (VCS)
UNSUPERVISED LEARNING	BUILD WEBVIEW
DATA MODELLING	

Learning Outcomes

LO1: You will learn about training data, and how to use a set of data to discover potentially predictive relationships

LO2: Understand basic concepts and common tools used in machine learning

LO3: You will master machine learning techniques, including supervised and unsupervised learning and hands-on modeling, rounding out your artificial intelligence education

LO4: Learn the basics of HTML/CSS, and Git version control system (VCS)

LO5: Build and Deploy a model to enable WebView

ML DEPLOYMENT (UNSUPERVISED LEARNING)

20 HOURS

| UNSUPERVISED LEARNING	CLUSTERING
ML DEPLOYMENT	ASSOCIATION

Learning Outcomes

LO1: Understanding the significance of carefully defining the problem before choosing a technique

LO2: How to get data ready for unsupervised algorithms in particular

LO3: Options for integrating unsupervised models into the organization's decision-making process

LO4: How to innovatively blend supervised and unsupervised models for improved performance

LO5: Interpret and track your unsupervised models for ongoing development

Project/Internship

CAPSTONE PROJECT

30 HOURS
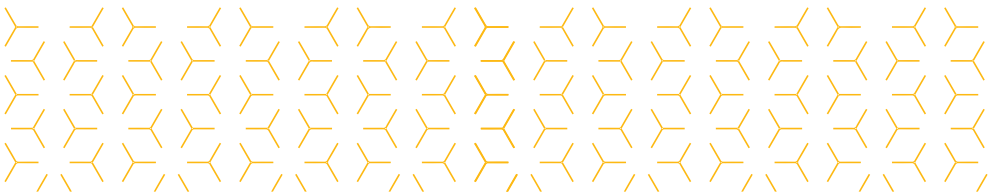
TRAINING KEY FEATURES

80 hours of live instructor led training

3 industry-based projects, 12 Assignments & 6 Case Studies

24/7 support and LMS Access

Hands on experience with latest tools & applied projects

Live engagement classes by seasoned academics and professionals

Internship and placement

3 guaranteed interviews by Airtics

Flexible timing for working professionals

ELIGIBILITY

Firm knowledge of software fundamentals with data structures, linear programming and architecture is beneficial. Candidates from programming and non programming background could also opt for this in-demand course.

PREREQUISITES

Due to its involvement in modern Machine Learning algorithms with math and programming, candidate having knowledge with linear algebra, probability and calculus could be a plus.

TOOLS/FRAMEWORKS/LIBRARIES

- Scripting tools: Python Programming, SQL
- Data science environment: Anaconda
- IDE shell: Jupyter notebook, PyCharm, Google Colab
- Data Analytics Libraries: Pandas, numPy, seaborn, matploltlib, cufflinks, scikit
- Database Integrations: Rest API
- Automated Machine Learning Models: Supervised, Unsupervised
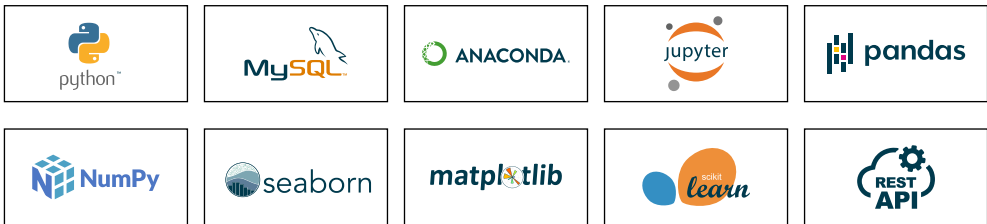
APPLICATION & USE CASES

- Data Science in Sales and Marketing - Future sales prediction, Price optimization
- Data Science in Supply Chain & Logistics - Demand analytics
- Data Science in Manufacturing - Actionable preventive maintenance
- Data Science in HR - Predictive analytics
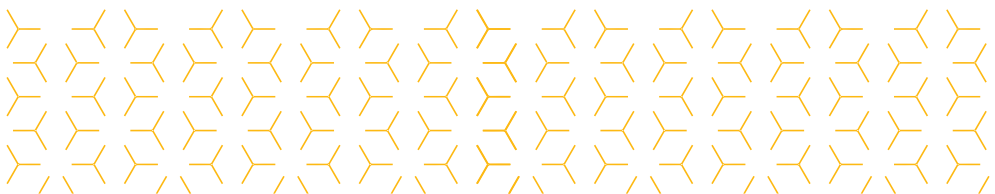
CAPSTONE PROJECTS

Suggested project topics:

HOUSE RENTAL PREDICTION

IMAGE CLASSIFICATION

**BUSINESS INSIGHTS REPORTING**

INTERNSHIP/PROJECTS

Airtics provides internships in the respective field for a period of 2-3 months to all eligible and able students.

IINTERNSHIP/PROJECT INCLUDES:

- Mentoring by software developers
- Live workshops on projects
- Internship certificate
- Candidate's evaluation

After successfully completing the learning modules, eligible students would move on to internships.
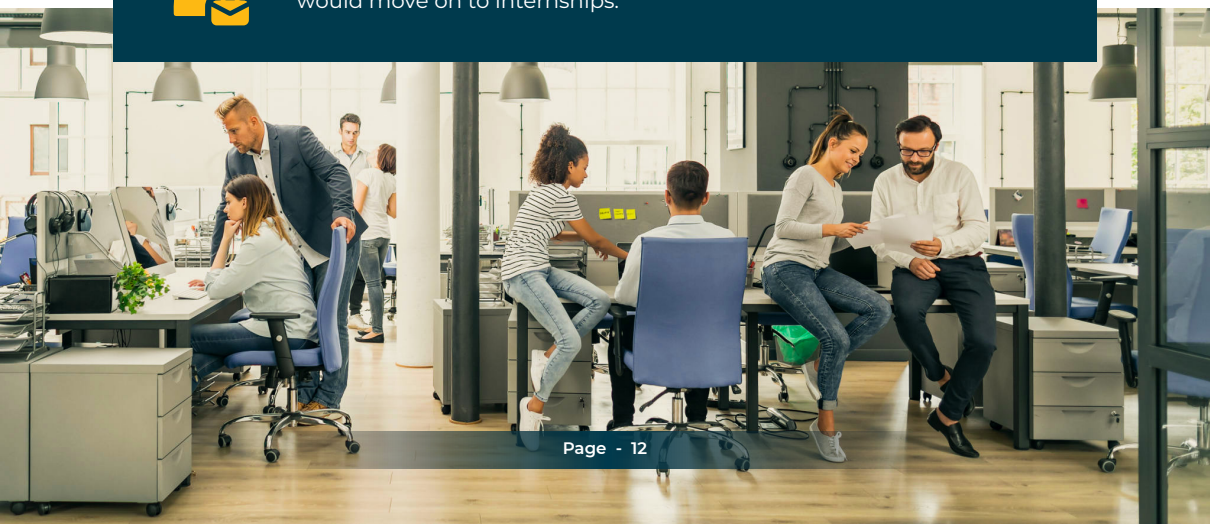
PLACEMENT SUPPORT

Airtics's high level of instruction has attracted an increasing number of companies, and the placement scene is expanding. Candidates who excel in internship will be eligible for placement at top MNC's that work with Airtics.

- ✓ Deliver five proof-of- concept a month
- ✓ We will have our partner companies review the POCs
- ✓ 3 guaranteed interviews
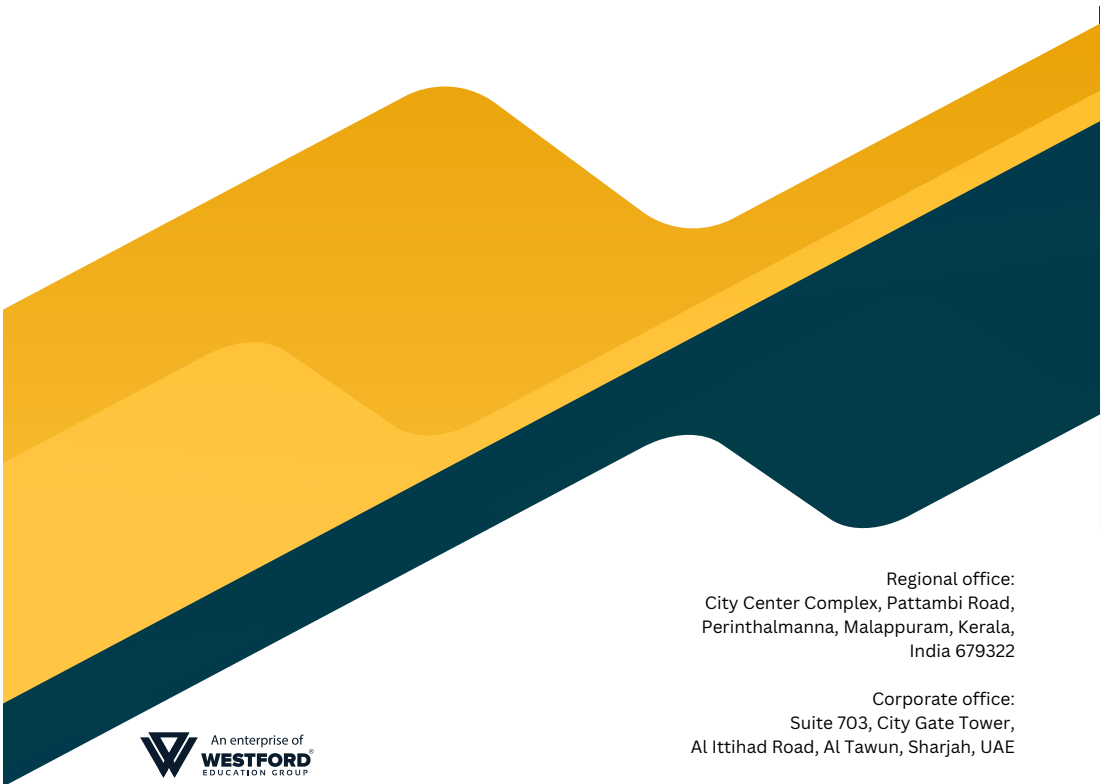- ✓ JD based Support training
- ✓ Placement in MNC

CERTIFICATION

International Certification by
Acacia University - Professional Development