

Tick one box per statement: ☐ not yet   ☐ nearly   ☐ confident.  每条打一个勾： 尚未掌握 / 快会了 / 有把握。

1. GAC004 Mathematics I: Fundamentals

GAC004 数学 I: 基础

- 1.1 Terminology and Arithmetic Review 术语与算术复习
- ☐☐☐ Solve elementary math problems using basic arithmetic operations.
- 1.2 Algebra I: Introductory Algebra 代数 I: 代数入门
- ☐☐☐ Perform basic algebraic operations and solve equations and inequations using algebraic methods.
- 1.3 Algebra: Graphs of Algebraic Relations and Coordinate Geometry 代数: 函数图像与解析几何
- ☐☐☐ Graph algebraic relations and use coordinate geometry to solve problems.
- 1.4 Geometry: Plane, Solid, and Euclidean Geometry 几何: 平面、立体与欧氏几何
- ☐☐☐ Analyze simple problems involving planar shapes and solids and solve problems in Euclidean geometry.
- 1.5 Trigonometry 三角学
- ☐☐☐ Calculate solutions to various problems using trigonometric methods.
- 1.6 Exponential and Logarithmic Functions 指数函数与对数函数
- ☐☐☐ Solve and graph exponential and logarithmic functions and equations.

2. GAC010 Mathematics II: Probability, Statistics and Finance

GAC010 数学 II: 概率、统计与金融

- 2.1 Sequence and Series 数列与级数
- ☐☐☐ Solve problems using arithmetic and geometric sequences and series.
- 2.2 Finance – Earning Money and Purchasing Goods 金融: 赚钱与消费
- ☐☐☐ Apply algebraic methods to solve financial problems and analyse information.
- 2.3 Finance – Investing Money and Loans 金融: 投资与贷款
- ☐☐☐ Apply algebraic methods to solve financial problems and analyse information.
- 2.4 Probability – Key Concepts 概率: 核心概念
- ☐☐☐ Solve problems using probability and counting techniques.
- 2.5 Statistics 统计学
- ☐☐☐ Analyse collected data using statistical methods.

- 2.6 Statistics – Numerical Measures of Central Locations 统计学: 集中趋势的数值度量
- ☐☐☐ Analyse collected data using statistical methods.
- 2.7 Statistics – Numerical Measures of Variability 统计学: 离散程度的数值度量
- ☐☐☐ Analyse collected data using statistical methods.
- 2.8 Distributions – The Normal Distribution 分布: 正态分布
- ☐☐☐ Use the normal distribution to analyse data.

3. GAC016 Mathematics III: Calculus & Advanced Applications

GAC016 数学 III: 微积分与进阶应用

- 3.1 Differentiation 微分
- ☐☐☐ Determine the derivative (if it exists) of most mathematical functions and use the derivative to analyse functional behaviour.
- 3.2 Integration 积分
- ☐☐☐ Use techniques of integration to find indefinite and definite integrals.
- 3.3 Advanced Applications 进阶应用
- ☐☐☐ Apply differentiation and integration techniques in a variety of practical problems.

4. GAC024 Discrete Mathematics

GAC024 离散数学

- 4.1 Sets, Relations and Functions 集合、关系与函数
- ☐☐☐ Demonstrate understanding of the introductory concepts and properties of sets, relations and functions.
- 4.2 Counting Systems 计数系统
- ☐☐☐ Understand the relationships between different counting systems and be able to perform simple binary arithmetic operations.
- 4.3 Binary Applications 二进制应用
- ☐☐☐ Understand the relationships between different counting systems and be able to perform simple binary arithmetic operations.
- ☐☐☐ Use the basic identities of Boolean algebra to analyse logic circuits and understand the basic principles of propositional logic.
- 4.4 Algorithms 算法
- ☐☐☐ Construct and analyse algorithms and flowcharts for simple mathematical and general procedures.
- 4.5 Graphs and Networks 图与网络
- ☐☐☐ Identify the basic types, properties and applications of graphs and trees.