

<<微积分>>

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前言

国内出版的理工类非数学专业的微积分教材很多，其中不少是有一定特色的。特别是近几年来随着大学数学教学改革不断深入，反映在教材建设上，其成果还是比较突出的。但从我在教学和教改研究中所读到的教材看，还存在着一些值得讨论的问题。第一是教材虽多，但在总的体系结构上大体雷同，受原苏联教材的影响还较重。当然，这并不是说这种体系不好，而是太多差异不大的教材，不利于比较和促进教材的建设工作。第二是教材的文风都比较正统，语言不太生动，有种使读者，特别是数学基础差一点的读者望而生畏之感，也就是教材的可读性方面值得改进。第三是习题不够丰富，题型的变化较少，应用问题，特别是有真实数据的、符合我国实际的应用问题很少。

由Dale Varberg等编写的《Calculus》第9版是一本在美国大学中使用面比较广泛的微积分教材。该书与在美国采用更广泛的微积分教材《Thomas' Calculus》比较，有不少共同之处，如重视应用、便于自学、习题数量与内容比较丰富等。而较大的差别是该教材比较强调数学的严谨性，例如在极限处理上，虽然也是主要讲函数极限，但书中不但有严格的 ϵ - δ 定义，而且用较大的篇幅用其证明一些极限；许多定理都有较严谨的证明。这一点与我国许多现行的理工科微积分教材比较类似，在美国也是另一种风格的教材。本书强调应用，习题数量多，类型多，重视不同数学学科之间的交叉，强调其实际背景，反映当代科技发展。

每章之后有附加内容，包含利用图形计算器或数学软件计算的习题或带研究性的小题目等。本教材的内容有：一元微积分，包括函数、极限，函数连续性，倒数及其应用，积分及其应用，不定型的极限及广义积分，级数、数值方法及逼近；多元微积分，包括空间解析几何，向量，多元函数的导数与二重、三重积分，以及向量场的微积分；最后是微分方程。总之，这种基础数学教材的影印出版，对于我们借鉴国外好的教学经验，推动我国的数学教学改革，特别是对当前提倡的“双语教学”工作，一定会起到很好的作用，收到良好的效果。

<<微积分>>

内容概要

这是一本在美国大学中使用面比较广泛的微积分教材。有重视应用、便于自学、习题数量与内容比较丰富等特点。而与其他美国教材的差别在于严谨性，本书许多定理都有较严谨的证明，这一点与我国许多现行的理工科微积分教材比较类似。在美国也是另一种风格的教材。

本书强调应用，习题数量多，类型多，重视不同数学学科之间的交叉，强调其实际背景，反映当代科技发展。每章之后有附加内容，有利用图形计算器或数学软件计算的习题或带研究性的小题目等。

<<微积分>>

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书籍目录

出版说明

序

Preface

0 Preliminaries

0.1 Real Number, Estimation, and Logic

0.2 Inequalities and Absolute Values

0.3 The Rectangular Coordinate System

0.4 Graphs of Equations

0.5 Functions and Their Graphs

0.6 Operations on Functions

0.7 Trigonometric Functions

0.8 Chapter Review

Review and Preview Problems

1 Limits

1.1 Introduction to Limits

1.2 Rigorous Study of Limits

1.3 Limit Theorems

1.4 Limits Involving Trigonometric Functions

1.5 Limits at Infinity ; Infinite Limits

1.6 Continuity of Functions

1.7 Chapter Review

Review and Preview Problems

2 The Derivative

2.1 Two Problems with One Theme

2.2 The Derivative

2.3 Rules for Finding Derivatives

2.4 Derivatives of Trigonometric Functions

2.5 The Chain Rule

2.6 Higher-Order Derivatives

2.7 Implicit Differentiation

2.8 Related Rates

2.9 Differentials and Approximations

2.10 Chapter Review

Review and Preview Problems

3 Applications of the Derivative

3.1 Maxima and Minima

3.2 Monotonicity and Concavity

3.3 Local Extrema and Extrema on Open Intervals

3.4 Practical Problems

3.5 Graphing Functions Using Calculus

3.6 The Mean Value Theorem for Derivatives

3.7 Solving Equations Numerically

3.8 Antiderivatives

3.9 Introduction to Differential Equations

3.10 Chapter Review

<<微积分>>

- Review and Preview Problems
- 4 The Definite Integral
 - 4.1 Introduction to Area
 - 4.2 The Definite Integral
 - 4.3 The First Fundamental Theorem of Calculus
 - 4.4 The Second Fundamental Theorem of Calculus and the Method of Substitution
 - 4.5 The Mean Value Theorem for Integrals and the Use of Symmetry
 - 4.6 Numerical Integration
 - 4.7 Chapter Review
 - Review and Preview Problems
- 5 Application of the Integral
 - 5.1 The Area of a Plane Region
 - 5.2 Volumes of Solids : Slabs, Disks, Washers
 - 5.3 Volumes of Solids of Revolution : Shells
 - 5.4 Length of a Plane Curve
 - 5.5 Work and Fluid Force
 - 5.6 Moments and Center of Mass
 - 5.7 Probability and Random Variables
 - 5.8 Chapter Review
 - Review and Preview Problems
- 6 Transcendental Functions
 - 6.1 The Natural Logarithm Function
 - 6.2 Inverse Functions and Their Derivatives
 - 6.3 The Natural Exponential Function
 - 6.4 General Exponential and Logarithmic Functions
 - 6.5 Exponential Growth and Decay
 - 6.6 First-Order Linear Differential Equations
 - 6.7 Approximation for Differential Equations
 - 6.8 The Inverse Trigonometric Functions and Their Derivatives
 - 6.9 The Hyperbolic Functions and Their Inverses
 - 6.10 Chapter Review
 - Review and Preview Problems
- 7 Techniques of Integration
 - 7.1 Basic Integration Rules
 - 7.2 Integration by Parts
 - 7.3 Some Trigonometric Integrals
 - 7.4 Rationalizing Substitution
 - 7.5 Integration of Rational Functions Using Partial Fractions
 - 7.6 Strategies for Integration
 - 7.7 Chapter Review
 - Review and Preview Problems
- 8 Indeterminate Forms and Improper Integrals
 - 8.1 Indeterminate Forms of Type $0/0$
 - 8.2 Other Indeterminate Forms
 - 8.3 Improper Integrals: Infinite Limits of Integration

<<微积分>>

8.4 Improper Integrals: Infinite Integrands

8.5 Chapter Review

Review and Preview Problems

9 Infinite Series

9.1 Infinite Sequences

9.2 Infinite Series

9.3 Positive Series: The Integral Test

9.4 Positive Series: Other Tests

9.5 Alternating Series, Absolute Convergence, and Conditional Convergence

9.6 Power Series

9.7 Operatio on Power Series

9.8 Taylor and Maclaurin Series

9.9 The Taylor Approximation to a Function

9.10 Chapter Review

Review and Preview Problems

10 Conics and Polar Coordinates

10.1 The Parabola

10.2 Ellipses and Hyperbolas

10.3 Tralation and Rotation of Axes

10.4 Parametric Representation of Curves in the Plane

10.5 The Polar Coordinate System

10.6 Graphs of Polar Equatio

10.7 Calculus in Polar Coordinates

10.8 Chapter Review

Review and Preview Problems

11 Geometry in Space and Vecto

11.1 Cartesian Coordinates in Three-Space

11.2 Vecto

11.3 The Dot Product

11.4 The Cross Product

11.5 Vector-Valued Functio and Curvilinear Motion

11.6 Lines and Tangent Lines in Three-Space

11.7 Curvature and Components of Acceleration

11.8 Surfaces in Three-Space

11.9 Cylindrical and Spherical Coordinates

11.10 Chapter Review

Review and Preview Problems

12 Derivatives for Functio of Two or More Variables

12.1 Functio of Two or More Variables

12.2 Partial Derivatives

12.3 Limits and Continuity

12.4 Differentiability

12.5 Directional Derivatives and Gradients

12.6 The Chain Rule

12.7 Tangent Planes and Approximatio

12.8 Maxima and Minima

<<微积分>>

- 12.9 The Method of Lagrange Multiplier
- 12.10 Chapter Review
- Review and Preview Problems
- 13 Multiple Integrals
 - 13.1 Double Integrals over Rectangles
 - 13.2 Iterated Integrals
 - 13.3 Double Integrals over Nonrectangular Regions
 - 13.4 Double Integrals in Polar Coordinates
 - 13.5 Application of Double Integrals
 - 13.6 Surface Area
 - 13.7 Triple Integrals in Cartesian Coordinates
 - 13.8 Triple Integrals in Cylindrical and Spherical Coordinates
 - 13.9 Change of Variables in Multiple Integrals
 - 13.10 Chapter Review
 - Review and Preview Problems
- 14 Vector Calculus
 - 14.1 Vector Fields
 - 14.2 Line Integrals
 - 14.3 Independence of Path
 - 14.4 Green's Theorem in the Plane
 - 14.5 Surface Integrals
 - 14.6 Gauss's Divergence Theorem
 - 14.7 Stokes's Theorem
 - 14.8 Chapter Review
- Appendix
 - A.1 Mathematical Induction
 - A.2 Proofs of Several Theorems
- 教辅材料说明
- 教辅材料申请表

<<微积分>>

章节摘录

插图：

<<微积分>>

编辑推荐

沃伯格、柏塞尔、里格登编写的《微积分(英文版原书第9版)》是一本在美国大学中使用面比较广泛的微积分教材。

教材共分14章，内容有：一元微积分，包括函数、极限，函数连续性，倒数及其应用，积分及其应用，不定型的极限及广义积分，级数、数值方法及逼近；多元微积分，包括空间解析几何，向量，多元函数的导数与二重、三重积分，以及向量场的微积分；最后是微分方程。

每章之后有附加内容，包含利用图形计算器或数学软件计算的习题或带研究性的小题目等。

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