**2018 至2019 学年 第 二 学期**

教 学 日 历

课程名称＿ **高等数学（2）（全英文）**＿性质 **必修课**

总学时＿96＿讲课＿96 实验＿0＿其它

授课班级 20**18级本科留学生** 学生人数  **20人左右**

任课教师 **范申**

职称 **讲师**

所在院(系、部) **理学院** **数学系**

系(教研室)主任签字 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

　　　　教材名称：Thomas’ Calculus（11th Edition）

作 者：George B. Thomas, Jr., Maurice D.Weir etc.

　　　　出版单位：**高等教育出版社**　　　出版时间：**2016.6**

中国石油大学(北京)教务处制

填 写 说 明：

1．每上一次课填写一行，例如：一周上三次课填写三次；

2．教学日历一经制订，不应出现大的变动，但允许主讲教师在完成课程教学大纲规定的教学要求前提下，进行必要的调整，以适应不断出现的新情况。如有变动，须经课程所属系主任（教研室主任）批准，并报院（系、部）办公室备查。

3．上机、大作业、课堂讨论、外出参观、考试等如占课内学时，在“备注”栏内注明。

4．教学日历由教师自存一份、课程所属系存一份，在每学期开学后第一周内送课程所属院（系、部）办公室并发一份电子版给课程所属院（系、部）办公室；有实验和上机学时的须发一份电子版的给实践科sjk@cup.edu.cn

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 教学时间 | | | 授 课 内 容 提 要 | 周学时  （周学时大于2，可合并单元格） | 学时分配 | | | 备注 |
| 周  次 | 星  期 | 节  次 | 讲课 | 实验 | 习题 |
| 1 | 一 |  | Chapter 8 series  8.1 Series – The Basics  8.2 Series – Convergence/Divergence | 6 | 6 |  |  |  |
| 三 |  | 8.3 Series – Special Series  8.4 Integral Test |
| 五 |  | 8.5 Comparison Test / Limit Comparison Test  8.6 Alternating Series Test  8.7 Absolute Convergence |
| 2 | 一 |  | 8.8 Ratio Test  8.9 Root Test  8.10 Strategy for Series | 6 | 6 |  |  |  |
| 三 |  | 8.11 Estimating the Value of a Series  8.12 Power Series |
| 五 |  | 8.13 Power Series and Functions  8.14 Taylor Series |
| 3 | 一 |  | 8.15 Applications of Series  8.16 Binomial Series  Quiz 1 | 6 | 5 |  | 1 |  |
| 三 |  | Chapter 9 Vectors  9.1 Introduction  9.2 Vectors – The Basics  9.3 Vector Arithmetic |
| 五 |  | 9.4 Dot Product  9.5 Cross Product |
| 4 | 一 |  | Chapter 10 Three Dimensional Space  10.1 Introduction  10.2 The 3-D Coordinate System  10.3 Equations of Lines | 6 | 6 |  |  |  |
| 三 |  | 10.4 Equations of Planes  10.5 Quadric Surfaces  10.6 Functions of Several Variables |
| 五 |  | 10.7 Vector Functions  10.8 Calculus with Vector Functions  10.9 Tangent, Normal and Binormal Vectors |
| 6 | 一 |  | 10.10 Arc Length with Vector Functions  10.11 Curvature  10.12 Velocity and Acceleration | 4 | 3 |  | 1 |  |
| 三 |  | 10.13 Cylindrical Coordinates  10.14 Spherical Coordinates  Quiz 2 |
| 五 |  | Ching Ming Festival |
| 7 | 一 |  | Chapter 11 Partial Derivatives  11.1 Introduction  11.2 Limits  11.3 Partial Derivatives | 6 | 4 |  | 2 |  |
| 三 |  | 11.4 Interpretations of Partial Derivatives  11.5 Higher Order Partial Derivatives  11.6 Differentials |
| 五 |  | 11.7 Chain Rule |
| 8 | 一 |  | 11.8 Directional Derivatives  Quiz 3 | 6 | 6 |  |  |  |
| 三 |  | Chapter 12 Applications of Partial Derivatives  Introduction  Tangent Planes and Linear Approximations |
| 五 |  | 4.4 The Shape of a Graph(1) |
| 9 | 一 |  | 4.4 The Shape of a Graph(2) | 6 | 6 |  |  |  |
| 三 |  | 4.5 The Mean Value Theorem |
| 五 |  |  |
| 10 | 一 |  | Chapter 5 Indefinite Integrals  5.1 The Concept and Properties of Indefinite Integrals | 6 | 4 |  | 2 |  |
| 三 |  | 5.2 Integral Rules, Integration by Substitution(1) |
| 五 |  | 5.2 Integral Rules, Integration by Substitution(2) |
| 11 | 一 |  | 5.3 Integration by Parts | 6 | 6 |  |  |  |
| 三 |  | 5.4 The Indefinite Integral of Rational Functions |
| 五 |  | Exercise class |
| 12 | 一 |  | Exercise class | 6 | 4 |  | 2 |  |
| 三 |  | Chapter 6 Definite Integrals  6.1 The Concept and Properties of Definite Integrals (1) |
| 五 |  | 6.1 The Concept and Properties of Definite Integrals (2) |
| 13 | 一 |  | Exercise class | 6 | 6 |  |  |  |
| 三 |  | Chapter 5 Applications of Definite Integrals 5.1 Volumes by Slicing and Rotation  About an Axis |
| 五 |  | 5.2 Modeling Volume Using Cylindrical Shells |
| 14 | 一 |  | 5.3 Lengths of Plane Curves | 6 | 4 |  | 2 |  |
| 三 |  | 5.4 Springs, Pumping and Lifting |
| 五 |  | 5.5 Fluid Forces |
| 15 | 一 |  | 5.6 Moments and Centers of Mass | 6 | 6 |  |  |  |
| 三 |  | Quiz 5 |
| 五 |  | Chapter 6 Transcendental Functions and Differential Equations  6.1 Logarithms |
| 16 | 一 |  | 6.2 Exponential Functions | 6 | 6 |  |  |  |
| 三 |  | 6.3 Derivatives of Inverse Trigonometric  Functions; Integrals |
| 五 |  | 6.4 First-Order Separable Differential Equations |
| 17 | 一 |  | 6.5 Linear First-Order Differential Equations | 6 | 0 |  | 6 |  |
| 三 |  | Revision |
| 五 |  | Revision |
| **注：准备期末考试** | | | | | | | | |