1. Rules of differentiation
   - Rules of computation for the derivative
   - Applications of derivatives
   - Conclusion of rules of differentiation

2. Introduction to differentiation
   - Definition of differentiation
   - Calculating derivatives
   - Derivatives of exponential functions and logarithms
   - Conclusion introduction to differentiation

3. Integration
   - Introduction
   - Antiderivation
   - Area
   - Integral

4. Exponential functions and logarithms
   - Derivatives of exponential functions and logarithms

5. Functions
   - Functions and graphs
   - Linear functions
   - Quadratic equations and parabolas
   - Fractions of functions
   - Power functions and root functions
   - Inverse functions

6. Calculating with numbers (not mandatory)
   - Integers
   - Rational numbers
   - Roots
   - Real numbers

7. Calculating with variables (not mandatory)
   - Variables
   - Calculating with exponents
   - Expanding brackets
   - Factorization

8. Equations
   - Linear equations and inequalities
   - Quadratic equations
   - Two equations with two unknowns

Syllabus

VU Mathematics Summer Course 2019
Version April 30th 2019