

COURSE SPECIFICATION

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	Course Title	III Mathematical Analysis III
2.	Originating Department	Department of Mathematics
3.	Course Code	MA203a
4.	Credit Value	5
5.	Course Type	Major Core Courses
6.	Semester	Fall
7.	Teaching Language	English & Chinese
8.	Instructor(s), Affiliation & Contact For team teaching, please list all instructors	Fuming Ma Jitao Wu 3 409 huy@sustech.edu.cn 0755-8801-5910 Yong Hu, Department of Mathematics Block 3, Room 409, Wisdom Valley huy@sustech.edu.cn 0755-8801-5910
9.	Tutor/TA(s), Contact	/
10.	Maximum Enrolment () Optional	

11.			/ /	/	()	
	Delivery Method	Lectures	Tutorials	Lab/Practical	Other Please specify	Total
	Credit Hours	64	32	0		96

12.	Pre-requisites or Other Academic Requirements	II MA102a Mathematical Analysis II MA102a
13.	Courses for which this course is a pre-requisite	
14.	Cross-listing Dept.	

SYLLABUS

15. **Course Objectives**

This course aims at providing math majored students with solid foundation in the theory of analysis, cultivating their ability of rigorous logical reasoning and mathematical thinking. It covers vector fields, numerical series, sequences and series of functions, improper integrals, Fourier analysis and integrals with parameters.

16. **Learning Outcomes**

Students are expected to understand several kinds of convergences of sequences and series of functions, and use proper criteria to determine the convergence of sequences, series and integrals with parameters. They should also master the calculation and proof techniques of the related subjects.

17. **Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)**

1.	12	
	The Series	12 hours
2.	12	
	Sequence of functions and series	(12 hours)
3.	8	
	Improper integral	(8 hours)
4.	Fourier	Fourier 12
	Fourier series and introduction of Fourier analysis	(12 hours)
5.	12	
	Theory of fields	(12 hours)
6.	8	
	Integral with parametric variables	(8 hours)

18. Textbook and Supplementary Readings

Textbook
, , , , 2003
Supplementary Readings
Mathematical Analysis (I,II), Zorich, , 1 , 2010.

ASSESSMENT

19.

Type of Assessment	Time	% of final score	Penalty	Notes
Attendance		5		
Class Performance		0		
Quiz		15		
Projects		0		
Assignments		10		
Mid-Term Test		30		
Final Exam		40		
Final		0		

Presentation

**Others (The
above may be
modified as
necessary)**

20.

GRADING SYSTEM

A.	Letter Grading
B.	/ Pass/Fail Grading

REVIEW AND APPROVAL

21.

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This Course has been approved by the following person or committee of authority

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