Course Specifications

General Information

Course name	Real Analysis(2)
Course number	MATH4320
Faculty	
Department	
Course type	Major Needs
Course level	4
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Writing correct mathematical proofs
2 - Learn the tools and ethics of scientific research
3 - Develop the ability to think deductively, analyze mathematical situations and extend ideas to new context
4 - Apply analysis methods to other areas of knowledge

Intended Learning Outcomes

Knowledge and Understanding	* Relate real analysis to other fields of applied mathematics
	* Conclude the essential facts, conceps and theorems and their relationship to one another
	* Become acquainted with and develop a certain level of proficiency in analysis
	* Use techniques of analysis to reinforce and solidify the learned calculus results
	* Apply real analysis techniques and methods in solving problems
Intellectual Skills	* Apreciating the value of independent thinking
	* Lead team work effectively for solving real analysis problems
	* Construct physical problems and find sutable solutions for them

Course Contents

1 - Contiuous functions
2 - Uniform continuity
3 - Monotone and inverse function
4 - Differentiation
5 - The mean value theorem
6 - LHospital rules
7 - The Riemann integral
8 - Riemann integrable functions
9 - Sequence of functions

Teaching and Learning Methods

1 - Lectures
2 - Discussions
3 - Assignments

Students Assessment

Assessment Method	TIME	MARKS
First mid-term exam	4th. week	20
Second mid-term exam	8th. week	20
Attendance and discussion		5
Homework		5
Final exam	End of the semester	50

Books and References

Essential books	Introduction to real analysis R. G. Bartel, D. R. Sherbert third edition
Recommended books	Mathematical analysis T. M. Apostol second edition
	Introduction to mathematical analysis W. R. Parzynski, P. W. Zipe