FLORIDA ATLANTIC UNIVERSITY

Graduate Programs—COURSE CHANGE REQUEST

UGPC APPROVAL _____
UFS APPROVAL _____
SCNS SUBMITTAL _____
CONFIRMED _____
BANNER POSTED _____
CATALOG POSTED _____
WEB POSTED _____

DEPARTMENT NAME:	COLLEGE OF:
MATHEMATICAL SCIENCES	SCIENCE
COURSE PREFIX & NUMBER:	**CURRENT COURSE TITLE:**
MAA 5229	INTRODUCTORY ANALYSIS 2

CHANGE(S) REQUESTED

SHOW "X" IN FRONT OF OPTION	SHOW "X" IN FRONT OF OPTION
CHANGE PREFIX FROM TO:	CHANGE TITLE TO:
CHANGE COURSE NO. FROM TO:	CHANGE DESCRIPTION TO:
CHANGE CREDITS FROM TO:	Continuation of topics in MAA 5228. Metric space topology, uniform convergence, Arzela-Ascoli theorem, differentiation and integration of single variable functions, power series, Stone-Weierstrauss Theorem, measure theory, Lebesgue integral, convergence theorems for the Lebesgue integral, absolute continuity, the fundamental theorem of calculus.
CHANGE PREREQUISITES TO:	
CHANGE COREQUISITES TO:	
CHANGE OTHER REGISTRATION CONTROLS TO:	
CHANGE GRADING FROM TO:	
OTHER	

CHANGES TO BE EFFECTIVE *(TERM)*:	Attach syllabus for **ANY** changes to current course information.
FALL 2008	

Will the requested change(s) cause this course to overlap any other FAU course(s)? If yes, please list course(s).	Any other departments and/or colleges that might be affected by the change(s) must be consulted. List entities that have been consulted and attach written comments from each.
YES NO X	NONE

TERMINATE COURSE, EFFECTIVE *(GIVE LAST TERM COURSE IS TO BE ACTIVE)*:

Faculty Contact, Email, Complete Phone Number:

W. KALIES, WKALIES@FAU.EDU, (561) 297-1107

SIGNATURES

Approved by:	*Date:*
Department Chair: _____	_____
College Curriculum Chair: _____	_____
College Dean: _____	_____
UGPC Chair: _____	_____
Dean, Graduate Studies: _____	_____

SUPPORTING MATERIALS

Syllabus—must include all criteria as detailed in UGPC Guidelines.

Go to: www.fau.edu/graduate/gpc/index.php to access Guidelines and to download this form.

Written Consent—required from all departments affected.

Email this form and syllabus to sfulks@fau.edu and eqirjo@fau.edu one week ***before*** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website by committee members prior to the meeting.

Introductory Analysis 2 – MAA 5229

Catalog description: Continuation of topics in MAA 5228. Metric space topology, uniform convergence, Arzela-Ascoli theorem, differentiation and integration of single-variable functions, power series, Stone-Weierstrauss Theorem, measure theory, Lebesgue integral, convergence theorems for the Lebesgue integral, absolute continuity, the fundamental theorem of calculus.

Prerequisites: MAA 5228 or permission of the instructor.

Corequisites: None.

Required Text: *Real Mathematical Analysis* by C. Pugh, Springer-Verlag, 2002.

Supplementary Text: None.

Course description: This course is a one-year introduction to the foundations of mathematical analysis at the introductory graduate level. The topics covered in this course are tested on the Ph.D. qualifying examination in the Mathematical Sciences.

Instructional objectives:

- Master the core principles of mathematical analysis
- Develop proof-writing skills and communication of mathematical ideas
- Apply the major theorems of analysis

Method of instruction: Lecture.

Schedule of topics covered: (both courses)

Topic	**Approx. Number of weeks**
Metric spaces and topology	10 weeks
Differentiation and Riemann Integration	3 weeks
Function spaces and uniform convergence	4 weeks
Approximation and Stone-Weierstrauss Theorem	3 weeks
Measure Theory	6 weeks
Lebesgue Integral	6 weeks

Assessment procedures: Homework 30%, midterm exams 30%, and a final exam 40%.

Grading criteria: 92-100%=A, 90-91%=A-, 88-89%=B+, 82-87%=B, 80-81%=B-, 78-79%=C+, 70-77%=C, 60-69%=D, 0-59%=F

References

[1] Robert G. Bartle. *The elements of integration and Lebesgue measure*. Wiley Classics Library. John Wiley & Sons Inc., New York, 1995. Containing a corrected reprint of the 1966 original [*The elements of integration*, Wiley, New York; MR0200398 (34 #293)], A Wiley-Interscience Publication.

[2] Robert G. Bartle. *A modern theory of integration*, volume 32 of *Graduate Studies in Mathematics*. American Mathematical Society, Providence, RI, 2001.

[3] Andrew Browder. *Mathematical analysis*. Undergraduate Texts in Mathematics. Springer-Verlag, New York, 1996. An introduction.

[4] Edward D. Gaughan. *Introduction to analysis*. Brooks/Cole Publishing Co., Pacific Grove, CA, fourth edition, 1993.

[5] H. L. Royden. *Real analysis*. Macmillan Publishing Company, New York, third edition, 1988.

[6] Walter Rudin. *Principles of mathematical analysis*. McGraw-Hill Book Co., New York, third edition, 1976. International Series in Pure and Applied Mathematics.

[7] Walter Rudin. *Real and complex analysis*. McGraw-Hill Book Co., New York, third edition, 1987.

[8] Elias M. Stein and Rami Shakarchi. *Real analysis*. Princeton Lectures in Analysis, III. Princeton University Press, Princeton, NJ, 2005. Measure theory, integration, and Hilbert spaces.

[9] Karl R. Stromberg. *Introduction to classical real analysis*. Wadsworth International, Belmont, Calif., 1981. Wadsworth International Mathematics Series.

[10] Richard L. Wheeden and Antoni Zygmund. *Measure and integral*. Marcel Dekker Inc., New York, 1977. An introduction to real analysis, Pure and Applied Mathematics, Vol. 43.