

FLORIDA ATLANTIC UNIVERSITY™

Graduate Programs—NEW COURSE PROPOSAL

UGPC APPROVAL _____
 UFS APPROVAL _____
 SCNS SUBMITTAL _____
 CONFIRMED _____
 BANNER POSTED _____
 ONLINE _____
 MISC _____

DEPARTMENT NAME:
 MATHEMATICAL SCIENCES

COLLEGE OF:
 SCIENCE

RECOMMENDED COURSE IDENTIFICATION:

PREFIX _____ MAS _____ COURSE NUMBER 6405 _____ LAB CODE (L or C) _____

(TO OBTAIN A COURSE NUMBER, CONTACT ERUDOLPH@FAU.EDU)

COMPLETE COURSE TITLE

ADVANCED ALGEBRA AND GEOMETRY

EFFECTIVE DATE

(first term course will be offered)

CREDITS:
 3

TEXTBOOK INFORMATION:

J. Bewersdorff, Galois Theory for beginners, AMS, 2006.
 C.V. Durrell, Advanced Trigonometry, Dover, 2007.

GRADING (SELECT ONLY ONE GRADING OPTION): REGULAR PASS/FAIL _____ SATISFACTORY/UNSATISFACTORY _____

COURSE DESCRIPTION, NO MORE THAN 3 LINES:

College algebra and geometry from an advanced standpoint.

PREREQUISITES W/MINIMUM GRADE:*
 MODERN ALGEBRA (MAS 4301) OR
 PERMISSION BY INSTRUCTOR

COREQUISITES:
 NONE

OTHER REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL):

PREREQUISITES, COREQUISITES & REGISTRATION CONTROLS SHOWN ABOVE WILL BE ENFORCED FOR ALL COURSE SECTIONS.

*DEFAULT MINIMUM GRADE IS D-.

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE:

PH. D. IN MATHEMATICS

Other departments, colleges that might be affected by the new course must be consulted. List entities that have been consulted and attach written comments from each.

_____ Paul Yiu, yu@fau.edu, (561)-297-2481
 Faculty Contact, Email, Complete Phone Number

SIGNATURES

SUPPORTING MATERIALS

<p>Approved by:</p> <p>Department Chair: _____</p> <p>College Curriculum Chair: _____</p> <p>College Dean: _____</p> <p>UGPC Chair: _____</p> <p>Dean of the Graduate College: _____</p>	<p>Date:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Syllabus—must include all details as shown in the UGPC Guidelines.</p> <p>Written Consent—required from all departments affected.</p> <p>Go to: http://graduate.fau.edu/gpc/ to download this form and guidelines to fill out the form.</p>
---	--	---

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.

MAS 6405 Advanced Algebra and Geometry (3 credits)

Catalogue description: College algebra and geometry from an advanced standpoint.

Course objectives: Students will

1. learn how to handle more efficiently problems in algebra, geometry, and calculus at the college level,
2. be able to write simple proofs of propositions when possible.

Prerequisites: Modern Algebra (MAS 4320) or permission of instructor.

Corequisites: None.

Recommended Texts

1. C. V. Durrell, Advanced Trigonometry, Dover reprint, 2007.
2. H. B. Fine, College Algebra, AMS Chelsea, 2004.

Bibliography:

1. J. Bewersdorff, Galois Theory for beginners, AMS, 2006.
2. H. S. M. Coxeter, Introduction to Geometry, Wiley classics.
3. L. S. Hahn, The use of complex numbers in geometry, MAA, 1992.
4. G. H. Hardy, A Course of Pure Mathematics, Cambridge Library.
5. G. H. Hardy, L. E. Littlewood, and G. Polya, Inequalities, Cambridge Library .
6. K. Kendig, Conics, MAA, 2005.
7. B. Spain, Analytic conics, Dover reprint, 2007.
8. P. Yiu, Introduction to the Geometry of the Triangle, Florida Atlantic University Lecture Notes, 2001.

Syllabus:

1. The uses of complex numbers (2 weeks)
2. Theory of equations and symmetric polynomials (3 weeks)
3. Inequalities (1 week)
4. Analytic theory of conics (3 weeks)
5. The art of integration (2 weeks)
6. Differential geometry of plane and space curves (3 weeks)
7. Selected advanced topics on geometry (2 weeks)

Total: 16 weeks

Method of Instruction: Lecture.

Assessment: Homework 40%/Journal 20%/ Tests 20%/Exam 20%

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.

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) located in Boca Ration – SU 133 (561-297-388), in Davie – MOD 1 (954-226-1222), in Jupiter – SU 117 (561-799-8585), or at the Treasure Coast – CO 128 (772-873-3305), and follow all OSD procedures.

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a series breach of these ethical standards, because it interferes with the University mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see http://www.fau.edu/regulations/chapter4/4/001_Honor_Code.pdf