**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

**CREDITS:** 3

**TEXTBOOK INFORMATION:**

**GRADING (SELECT ONLY ONE GRADING OPTION):**
- **REGULAR** ___x___  
- **PASS/FAIL** ______  
- **SATISFACTORY/UNSATISFACTORY** ______

**COURSE DESCRIPTION, NO MORE THAN 3 LINES:**
Integrative treatment of advanced topics in classical algebra and geometry.

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

**COREQUISITES:** NONE

**OTHER REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL):**

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**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.

**SIGNATURES**

**Approved by:**
- Department Chair: ___________________________
- College Curriculum Chair: ___________________
- College Dean: ______________________________
- UGPC Chair: ________________________________
- Dean of the Graduate College: ________________

**Date:** __________________

**SUPPORTING MATERIALS**

- **Syllabus**—must include all details as shown in the UGPC Guidelines.
- **Written Consent**—required from all departments affected.

Go to: [http://graduate.fau.edu/gpc/](http://graduate.fau.edu/gpc/) to download this form and guidelines to fill out the form.

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**Faculty Contact, Email, Complete Phone Number**

Paul Yiu, yiu@fau.edu, (561)-297-2481

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FAUnewverseGrad—Revised May 2008
Email this form and syllabus to sfults@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:  Integrative treatment of advanced topics in classical algebra and geometry.

Course objectives: Students will

1. learn an integrative treatment of advanced topics in classical algebra and geometry,
2. learn how to handle more efficiently challenging problems in classical algebra, geometry, and calculus,
3. be able to write simple proofs of propositions when possible.

Prerequisites: Modern Algebra (MAS 4320) or permission of instructor.
Corequisites: None.

Recommended Texts


Bibliography:

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