Course Approval Form

For approval of new courses and deletions or modifications to an existing course.

registrar.gmu.edu/facultystaff/curriculum

Action Requested:

[X] Create new course [ ] Delete existing course

[ ] Modify existing course (check all that apply)

[ ] Title [ ] Credits [ ] Repeat Status [ ] Grade Type

[ ] Prereq/coreq [ ] Schedule Type [ ] Restrictions

[ ] Other: _____

Course Level:

[X] Undergraduate

[ ] Graduate

College/School: College of Science **Department:** Mathematical Sciences

Submitted by: Valeriu Soltan **Ext:** _____ **Email:** vsoltan@gmu.edu

Subject Code: MATH **Number** 312

(Do not list multiple codes or numbers. Each course proposal must have a separate form.)

Effective Term: [X] Fall [ ] Spring [ ] Summer *Year* 2014

Title:

Current _____

Banner (30 characters max including spaces) Geometry

New Geometry

Credits: (check one) [3] Fixed [ ] Variable or to

Repeat Status: (check one) [X] Not Repeatable (NR) [ ] Repeatable within degree (RD) [ ] Repeatable within term (RT) Maximum credits allowed: [ ]

Grade Mode: (check one) [X] Regular (A, B, C, etc.) [ ] Satisfactory/No Credit [ ] Special (A, B C, etc. +IP)

Schedule Type Code(s): (check all that apply) [X] Lecture (LEC) [ ] Lab (LAB) [ ] Recitation (RCT) [ ] Internship (INT) [ ] Independent Study (IND) [ ] Seminar (SEM) [ ] Studio (STU)

Prerequisite(s):

Grade C or higher in MATH 114.

Corequisite(s):

Instructional Mode:

[X] 100% face-to-face

[ ] Hybrid: ≤ 50% electronically delivered

[ ] 100% electronically delivered

Special Instructions: (list restrictions for major, college, or degree;hard-coding; etc.)

MATH 312 will be an elective course acceptable (but not required) for BA and BS degrees offered by the Department of Mathematical Sciences.

Are there equivalent course(s)? [ ] Yes [X] No

If yes, please list _____

Catalog Copy for NEW Courses Only (Consult University Catalog for models)

Description (No more than 60 words, use verb phrases and present tense)	**Notes** (List additional information for the course)
Two and three dimensional analytic geometry, complex geometry, projective geometry, conics and quadric surfaces, spherical geometry, quaternions, Euclidean and non-Euclidean geometry. This course meets the requirement for secondary school teacher certification.	

Indicate number of contact hours: Hours of Lecture or Seminar per week: 3 Hours of Lab or Studio: [ ]

When Offered: (check all that apply) [X] Fall [ ] Summer [X] Spring

Approval Signatures

Fall 2013

Department Approval Date College/School Approval Date

If this course includes subject matter currently dealt with by any other units, the originating department must circulate this proposal for review by those units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

Unit Name	Unit Approval Name	Unit Approver's Signature	Date

For Graduate Courses Only

Graduate Council Member Provost Office Graduate Council Approval Date

For Registrar Office's Use Only: Banner_____Catalog_____

revised 2/2/10

Course Proposal Submitted to the Curriculum Committee of the College of Science

1. COURSE NUMBER AND TITLE: MATH 312 Geometry

Course Prerequisites: Grade C or higher in MATH 114.

Catalog Description: Two and three dimensional analytic geometry, complex geometry, projective geometry, conics and quadric surfaces, spherical geometry, quaternions, Euclidean and non-Euclidean geometry. This course meets the requirement for secondary school teacher certification.

2. COURSE JUSTIFICATION:

Course Objectives: The course will cover major concepts of Euclidean and non-Euclidean geometry, projective, complex, and spherical geometries. Students will have an understanding of essential facts of modern geometry.
The suggested textbook is *Geometry*, by Roger Fenn, Springer, 2001.

Course Necessity: MATH 312 will fill a gap in the undergraduate program by offering an introductory study of contemporary geometry used in various geometry courses at the MS and PhD levels.

Course Relationship to Existing Programs: MATH 312 will serve students who wish to develop a broad understanding of modern geometry and who require an upper division mathematics course. It will also develop students' abilities to connect geometry with algebra, calculus, and complex analysis.

Course Relationship to Existing Courses: MATH 312 overlaps only with MATH 302, the only other existing undergraduate course in geometry offered by the math department. MATH 302 develops Euclidean and non-Euclidean geometry axiomatically, and so does not cover the range of topics of MATH 312.

3. APPROVAL HISTORY:

4. SCHEDULING AND PROPOSED INSTRUCTORS:

Semester of Initial Offering: Fall 2014

Proposed Instructors: F. Colonna, D. Singman, V. Soltan

5. TENTATIVE SYLLABUS: See attached.

MATH 312-001: Geometry

Syllabus, Fall 2014

COURSE INFORMATION

Important days. Last day to add – Sept 6, Last day to drop – Sept 30 (with penalty), Columbus Day - Oct 10, Thanksgiving - Nov 23-27.

Course objectives. Cover major geometric concepts of plane and solid geometry and develop ability to understand and create proofs in this field.

Prerequisites. Grade *C* or higher for MATH 114, or equivalent.

Textbook. Fenn, *Geometry*, Springer, 2003.

Material to be covered. Chapters 1-5, with some sections omitted.

Classes. TR, 12:00 pm–1:15 pm, Robinson Hall, Room A245.

Instructor. Dr. Valeriu Soltan, Office: Exploratory Hall, Room 4202. Tel. 703-993-1474. Email: vsoltan@gmu.edu

Office hours. MW, 1:30 pm–2:45 pm, or by appointment.

Homework. Problems for the homework will be assigned and collected regularly.

Academic integrity. Mason is an Honor Code university; please see the University Catalog for a full description of the code and the honor committee process.

ODS. If you are a student with a disability and you need academic accommodations, please see me and contact the Office of Disability Services (ODS) at 703-993-2474. All academic accommodations must be arranged through the ODS.

Writing center is located in A114 Robinson Hall; (703) 993-1200; website is http://writingcenter.gmu.edu

University libraries: http://library.gmu.edu/mudge/IM/IMRef.html

Counseling and psychological services (CAPS): (703) 993-2380; website is http://caps.gmu.edu

University policies. The University Catalog, http://catalog.gmu.edu, is the central resource. Other policies are available at http://universitypolicy.gmu.edu/. Students are responsible for knowing and following established policies.

Exams. There will be two midterm exams (presumably, September 29th and November 8th) and final exam (December 13, 1:30 pm-4:15 pm).

Grading. Homework is 20%, each midterm is 25%, and final exam is 30% worth of the total grade. Grading scale is given in the following table.

A+	*A*	*A-*	*B+*	*B*	*B-*	*C+*	*C*	*C-*	*D*	*F*
100-98	97-93	92-90	89-87	86-83	82-80	79-77	76-72	71-69	68-60	59-0

Attendance and Make-Ups. Each student is expected to attend classes regularly. No make-ups for exams is allowed unless you have a serious written excuse. Do not expect to take final exam early.