

SYLLABUS

MATH490 3D-Printing Fall2023

Instructor: Ivan C. Sterling, 177 SH, (240-431-8185), isterling@smcm.edu.

Office Hours: TBA + by appt

Textbook: None

Grading: Projects, Homework and Class Participation. You may ask me your grade status at anytime in person or by email.

MATH490 Senior Topics Seminar in Mathematics

3D Printing Galaxies

A small number of students will work together to investigate galaxies. Students will learn the elementary geometry of galaxies and develop methodologies to build a wide variety of them. Students will learn mathematical software to assist in computations, visualizations, animations, and 3D printing. Student will make both plastic and quasi-metal prototype prints of galaxies. A wide range of projects will be investigated. The engaged learning aspect of this class will include extensive 3D Printing Lab Work.

For Business Use Only:

- At the completion of MATH 490, students will be able to categorize topics that were covered in class as demonstrated by illustrating them with examples.
- At the completion of MATH 490, students will be able to illustrate topics that were covered in class as demonstrated by knowing the basic properties of these topics.
- At the completion of MATH 490, students will be able to formulate topics that were covered in class as demonstrated by providing solutions to problems involving these topics.
- At the completion of MATH 490, students will be able to build topics that were covered in class as demonstrated by understanding the proofs of main results.
- At the completion of MATH 490, students will be able to compare topics that were covered in class as demonstrated by articulating the similarities and differences between topics.