

Queens College
3D Modeling, Printing, & Casting I
PHOTO 230-01/ARTS 282-04, 369-04
Fall 2026
Tuesday 10:00am-1:50pm

Art Department / Photography & Imaging

I-Building Rm 213 & Klapper 181

Instructor: Matt Greco
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Hours: By Appt
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Course Website: professorgreco.com

Course Description:

3D Modeling/Printing and Casting will emphasize the role new technologies play in imaging and analog sculptural processes. In this course students will learn how to take advantage of imaging technology such as 3D modeling and printing as it applies to the traditional ceramic practice of slip casting. The course will explore the rudiments of 3D modeling, how to prepare 3D files for 3D printing using Fused Deposition Modeling, the basics of molding models in plaster, the unique properties of ceramic slip, the process of producing multiples through slip casting, and glazing/firing the finished castings. Students will study the aesthetic qualities of translating 2D images into 3D sculptural form as well as the technical aspects of the process.

Course Objectives:

At the close of this course the successful student will have a comprehensive understanding of 3D modeling, preparing files for 3D printing, 3D printing, mold making, slip casting, and the fundamental ceramic process. Students will be able to design objects in Autodesk Fusion, prepare them for 3D printing, and export them as an STL file. They will have expanded their vocabulary to include the proper terminology for the major components of CAD/CAM modeling and Fused Deposition Modeling 3D printing. Students will become proficient in plaster mold making, the unique properties of ceramic casting slip, producing multiples via casting, and glazing and firing finished ceramics. Students will have a sound understanding of how new digital tools and technologies can advance traditional practices. They will demonstrate the ability to think creatively, form project ideas, and follow those ideas from conception to realization.

Course Requirements:

Students will be expected to complete all assignments on time and to the best of their ability. Students are expected to attend every class but life does happen so you get 3 absences, after that, additional absences will likely result in missed material and thus a lower grade. Be on time please; tardiness is as bad as absences; I will begin class a few

minutes late to give everyone time to get settled in - do not abuse this. We will have a final critique; attendance is required.

Reasonable Accommodations for Students with Disabilities

Students requiring a disability accommodation, or need technical assistance with accessible course materials, should contact: qc.spsv@qc.cuny.edu

Students are allowed to register with the department anytime while attending Queens College, but it is recommended that they do it as soon as possible so they can be accommodated properly. <https://www.qc.cuny.edu/sp/>

CUNY Policy On Academic Integrity

Only your own photos, artwork, and/or writing are permitted for use in projects. The unauthorized use of images and compositions that are not your own is considered plagiarism. Academic Dishonesty is prohibited in The City University of New York and is punishable by penalties, including failing grades, suspension, and expulsion as provided at <https://www.cuny.edu/about/administration/offices/legal-affairs/policies-procedures/academicintegrity-policy/>

Statement on Student Wellness

As a student, you may experience a range of challenges that can interfere with learning, such as strained relationships, increased anxiety, substance use, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may diminish your academic performance and/or reduce your ability to participate in daily activities. QC services are available free of charge. You can learn more about confidential mental health services available on campus at <https://www.qc.cuny.edu/cs/>

Use of Student Work

All programs in New York State undergo periodic reviews by accreditation agencies. For these purposes, samples of student work are occasionally made available to those professionals conducting the review. Anonymity is assured under these circumstances. If you do not wish to have your work made available for these purposes, please let the professor know before the start of the second class. Your cooperation is greatly appreciated.

Queens College Classroom Photography and Recording Policy

Neither photographs nor recordings (audio or video) of all or parts of classes at Queens College may be made without written permission from the course instructor(s).

Course Evaluations

During the final four weeks of the semester, you will be asked to complete an evaluation for this course by filling out an online questionnaire. Please remember to participate in these course evaluations. Your comments are highly valued, and these evaluations are an important service to fellow students and to the institution since your responses will

be pooled with those of other students and made available online. Please also note that all responses are completely anonymous; no identifying information is retained once the evaluation has been submitted.

Course Website:

Please check our course website every week for updates to the syllabus or schedule, links to information and resources, and a student gallery page where we will showcase your work throughout the semester.

Grades:

3D Models prepared correctly for 3D printing – 20%

3D Prints - 20%

Plaster Molds – 20%

Final Glazed Pieces - 40%

3D Models prepared correctly for 3D printing – 20%

Two 3D models (cup and bowl) should be clean, error-free files that show a cohesive design concept, an attention to form and use, and are prepared successfully for 3D printing.

3D Prints - 20%

Two 3D prints (cup and bowl) should be structurally sound, cleanly executed, and final finished and show an understanding of the process.

Plaster Molds – 20%

Two plaster molds (cup and bowl) should be properly constructed and fully functional and demonstrate how to cleanly capture the 3D print and produce reliable slip castings.

Final Glazed Pieces - 40%

Sixteen (8 cups and 8 bowls) finished castings should be cleanly cast and evenly glazed. Demonstrating your craftsmanship, design, and successful completion of the full process.

Printing, Molding, and Casting:

3D Printing for the course will be done primarily by the Klapper Digital Lab with the materials paid for through the course M&T Fee. You can also send your file to a service bureau to be printed. I suggest HUBS – they have a dollar minimum so submit your files in groups - <https://www.hubs.com/>. There's also the Queens College's Makerspace: <https://library.qc.cuny.edu/makerspace/> - Rosenthal Library Rm 101. You need to schedule an orientation and safety training before you can use the space. Do this right away so you have access when you need to make your prints. Using the makerspace is also free but you'll only get limited support and training. Or you can print yourself at home if you have your own 3D printer.

Most supplies for the mold making and casting assignments are provided by your M&T Fee including plaster, casting slip, and glaze. You will have to purchase a few small supplies. See below.

Do not send your file to print until approved by me.

Max Height: 130mm - Max Width: 125mm

Equipment:

Check all equipment to ensure good operation, especially jump drives and portable hard drives. Lost files, corrupted disks, etc. are not acceptable excuses for missed assignments. BACK UP EVERYTHING OFTEN.

Required:

- 1 five-gallon bucket
- 2 four-quart round or square plastic container

Recommended:

- *The 3D Printing Handbook* by Ben Redwood, Filemon Schöffner, Brian Garret
- *3D Printing Made Easy for Newbies and Hobbyists* by Natalie Guzman
- *The Essential Guide to Mold Making & Slip Casting* by Andrew J. Martin

Schedule (subject to change):

Week 1: 9.1

I-213

Course outline, review syllabus, required equipment, recommended reading.

Week 2: 9.8

I-213

What is 3D printing? History of 3D printing, various 3D printing technologies, 3D modeling software, modeling in solids vs meshes, making a printable 3D model

Week 3: 9.15

I-213

3D modeling with Autodesk Fusion 360

3D modeling a house, modeling a gear

Watch LinkedIn Learning Videos

Bring sketches of cup for class on 9.19

Week 4: 9.22

I-213

3D modeling with Autodesk Fusion 360 cont.

3D modeling a house, modeling a gear cont.

3D model cup & bowl #1

Week 5: 9.29

I-213

3D modeling with Autodesk Fusion 360 review

Workday

3D model cup & bowl #2

Week 6: 10.6

I-213

3D modeling with Autodesk Fusion 360 review

Intro to making plaster molds; poured & frosted molds, cottle boards

Making plaster molds for slip casting

Mold making demo

Workday

3D model cup & bowl #3

Week 7: 10.13

NO CLASS – TUES is a MON

Week 8: 10.20

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Ceramic 101 - green ware, bisque ware, glaze ware - cone temps and glazing techniques

What is slip and how do you cast with it?

Workday

DROP DEADLINE - Final models saved as STL and sent to be 3D printed

Week 9: 10.27

KP 181

Workday

Casting demo

Making molds

Making castings

MUST HAVE both 3D prints

Week 10: 11.3

KP 181

Glazing 101 Demo

Making molds

Making castings

Week 11: 11.10

KP 181

Workday

Making castings

Week 12: 11.17

KP 181

Workday

All castings should be dry and on shelves for firing

Week 13: 11.24

KP 181

Workday

Glazing

Last Wet Day (all castings should be drying in preparation for firing)

Week 14: 12.1

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Workday

Week 15: 12.8

I-213 & KP 181

Workday

Last Glaze Day and final firing of castings

Week 16: 12.15

KP 181

LAST DAY OF CLASS

Final Critique: show (2) 3D prints and 8 final castings.

Document work, clean up studio