

Master of Glass Art and Science



The Handbook of Policy and Procedures for Master of Glass Art and Science of the Universidade Nova de Lisboa and Universidade de Lisboa is a guide to students and faculty to assist in planning and understanding the requirements of the program. This information is subject to change.

Admissions, Inquiries, additional information:

Márcia Vilarigues (Master Coordinator)

Email: mgv@fct.unl.pt

Telephone: +351 21 294 83 22

Program Purpose

The program is aimed at glass students throughout the world who have the interest and ability to approach this material from a broader perspective than is usually seen. The program will pioneer the curricular and intellectual integration of the artistic approach with sound scientific practices. Additionally a thorough art and glass historical perspective will be offered in this unique environment. You will learn with people working with glass from several disciplines and perspectives. This will bring with it knowledge of their motivations, concerns, ways of thinking, and ideals. You will be at the forefront of new developments in materials and techniques and applications in glass: industrial, architectural, artistic and scientific.

Admissions requirements

1. A statement of your purpose for entering this program and what you hope to achieve.
2. Official transcripts from the undergraduate diploma granting institution
3. Portfolio

Study program

Course units	Obs
<i>1st year / 1st semester</i>	
Introduction to Glass Science and Technology I	
Glass Studio I	
Graduated Seminar in Art I	
Introduction to Chemistry	For Art students with a degree in Art
Introduction to Art History	For students with a degree in Science.
<i>1st year / 2nd semester</i>	
Introduction to Glass Science and Technology II	
Glass Studio II	
Graduated Seminar in Art II	
Glass History	
<i>2nd year</i>	
Dissertation	

Faculty

Coordinator: Márcia Vilarigues, PhD

Invited Associate Professor, Richard Meitner, Art BA University of Calif.

Instructor, Robert Wiley, MFA Ohio State University

Adjunct faculty, Fernando Quintas, Lecturer, University of Lisbon

Adjunct faculty, Teresa Almeida, Lecturer, University of Porto

Visiting Artists and lecture program

The Program invites visiting artists, educators, and scientists to speak and conduct workshops at the NUL facility.

Facilities

New University of Lisbon (primary facility)

Individual studio bench space, 2 diamond saws, 1 belt sander, 1 diamond horizontal grinding machine, 1 silicon carbide grinding machine, UV -380 N, 3 casting slumping ovens, 1- 250 pound melting furnaces, 1- 30" glory hole,

5 test furnaces, 1 pick-up garage, 3- annealing ovens, 1 bench torch,

Acid etching tank, 30" x 30" sand blasting unit, stained glass facility, 10 flame working torches - large torch, 2 glass blowing benches, experimental facility for researching surface treatments, glass formulas etc., neon facility, enameling ovens, pipe warmer, shop tools, casting facility for mold making for investment and pate de verre casting.

Faculty of Fine Arts, University of Lisbon:

Full-scale art facility - UL faculty are working with NUL students on an individual basis. Facility includes art school facilities for sculpture, ceramics and painting (welding, multi media construction, casting bronze, kilns etc.)

Tuition

3 000 €

Syllabus

1st Year

Introduction to Glass Science and Technology I and II

5, 5 h/week

Responsible: Professor Márcia Vilarigues

Other lecturers: to be defined

Specific Outcomes:

An introduction to materials science fundamentals is necessary for the student to understand the kind of material he is going to work with. The student will be introduced to the composition of different glasses, their significant properties, and in particular the problems related to mechanical tensions in glass pieces after forming. As a result an understanding of how to correctly plot the annealing schedules for different glasses will be acquired. Each student will acquire the necessary knowledge to order the adequate glass in the marketplace, and to evaluate compatibility between them. A basic understanding of glass ceramics will also be taught, namely their compositions, properties and applications.

Summary of topics to be covered in this discipline

1. Introduction to materials science:

Crystalline structures;

Silicate structure;

Glass-ceramics;

Mechanical properties;

Thermal properties.

2. Glasses:

Definition;

Glass transition temperature;

Structure;

Network forming oxides;

Modifier oxides;

Raw materials and main types of glasses;

Composition of glasses;

Calculation of the composition;

Glass fining;

Working point, softening point and annealing point;

Temperature schedules for the annealing of blown and/or cast glass objects;

Compatibility of glasses;

Coefficient of thermal expansion.

3. Glazing:

Classification and properties;

Compositions – formulation and recipes;

Application – conditions to be obeyed and adjustments to the ceramic body;

Defects – causes, corrections and their potentially creative exploitation.

Glass Studio I and II

14, 5 h/week

Responsible: Robert Wiley

Other lecturers: to be defined

Specific Outcomes:

Through studio work the students will learn the most important techniques used for the production of glass articles. The students will also be taught about the design and construction of equipment, as well as about the safety measures indispensable for those who work in glass studios.

Summary of topics to be covered in this discipline

1. Techniques of blown glass.
2. Glass processed by cold techniques.
3. Glass poured into sand moulds (sand casting) and "pâte de verre".
4. Fusing and slumping.
5. Surface treatments; sand blasting, electroplating and electroforming.
6. Enameling and staining of glass.
7. Sculpture.
8. Mixed techniques.
9. Equipment design and construction.
10. Burners and fuels
11. Basic principles of electricity.
12. Security in the glass studio

Graduated Seminar in Art I and II

1, 5 h/week

Responsible: Richard Meitner

Other lecturers: to be defined

Specific Outcomes:

A discussion centered on the concepts of glass art, creativity and conceptualization.

Summary of topics to be covered in this discipline

Forum for the presentation and discussion of research topics, or for the discussion of concepts relevant to the Art and Science of Glass. Creativity, conceptualization, and the integration of that knowledge.

Lectures, criticism, discussion, seminars and visits to museums will be focused on the following questions: what is art and what is the purpose/function/value of art?

Introduction to Chemistry

3 h/week

Responsible: Professor Fernando Pina

Specific Outcomes:

Introduction to chemical concepts essential for the understanding of materials properties, applied to selected materials consistent with future work areas.

Summary of topics to be covered in this discipline

1. Examples of the importance of Chemistry in the Art of Glass.
2. From the atom to the molecule.
3. Atomic models and chemical bonds.
4. Periodic properties.
5. Chemical bonding in the solid state.
6. Ionic bonding.
7. Covalent solids.
8. Metallic bonding.
9. Van der Waals forces.
10. Hydrogen bonding.
11. Thermodynamic factors which influence chemical equilibrium.
12. Equilibrium calculations in chemical reactions.
13. Acid-base, precipitation and redox reactions.
14. Introduction to chemical kinetics.
15. Order, activation energy of reaction mechanisms.

Introduction to Art History

3 h/week

Responsible: Professor Fernando A. Baptista Pereira

Other lecturers: to be defined

Specific Outcomes:

This seminar is essentially directed towards those master's candidates who have not had sufficient education in this area in the course of their previously completed bachelor's degree programs. It is also open to those who feel they need to update or improve their previously acquired knowledge in this area. It will present the essential bibliography and reading lines for the history of art, in order to acquire the ability to identify and characterize the most fundamental moments in the long story of Western Art, from its beginning up to the present time. Students will hereby learn to better understand the major contributions of the most important artists throughout history. Portuguese Art will be included where it has played a role in this international artistic development.

Summary of topics to be covered in this discipline

1. Brief presentation of the study methodologies adopted in the History of Art.
2. The origins of Art and Architecture.
3. The city, the temple, the palace and funeral complexes.
4. The Classic Paradigm: Greece and Rome.
5. Paleochristian art and the transition to the Medieval Paradigm.
6. Romanesque and Gothic.
7. The Renaissance in Italy and Flanders and the emergence of the Modern Paradigm.
8. Renaissance, Mannerism and Baroque.
9. Rococo and the beginning of Revivalism (Neogothic and Neoclassicism).
10. The XIX Century: Romanticism, Realism and Eclecticism.
11. Impressionism and the Post-Impressionism.
12. The XX Century: Modern and Contemporary Art.

Glass History

3 h/week

Responsible: Professor Fernando A. Baptista Pereira

Other lecturers: to be defined

Specific Outcomes:

This seminar, will examine from a very broad standpoint, the most fundamental moments and changes in the course of the historical evolution of glass. It will do so across the broadest spectrum imaginable, from the industrial production of containers including series and unique production artistic glass, through to glass in its architectural applications. It will arrive at and give special emphasis on the study of contemporary creative approaches. The Portuguese production of stained glass windows and of artistic glass will also be covered.

The lectures for this Seminar will include the collaboration of both Portuguese and foreign internal and external experts. Specific themes within this study area will be focused upon both in classroom lectures and in complementary conferences.

Summary of topics to be covered in this discipline

1. From glazes to Glass: experiences in the Antiquity from the 3rd millennium B.C.E. to the Classic A.
2. The origins of glass blowing.
3. Roman Glass: main production centers and masterpieces.
4. Architectural glass in the Middle Ages: Islamic glass; composition modalities and narratives of stained glass windows in Christian Europe (XI-XVI centuries).
5. Stained glass windows in Portugal, during the XV and XVI centuries.
6. The evolution of glass in Italy (Venice, Murano, and Altare) in the early Middle Ages and in the Renaissance.
7. Technological progress during the XVII century: the invention of Crystal, the manufacture of lenses and the making of mirrors.
8. The Industrial Revolution and glass in the XIX and XX centuries, mass production of containers and the development of new and more resistant materials for building construction.
9. Glass manufacturing in Portugal: from the factory of Coima to "Marinha Grande".
10. Artistic glass in the XIX and XX centuries: the greatest artists seen within the context of each of the main techniques for glass forming.

2nd year

Dissertation

25 h/week

Responsible: Robert Wiley

Other supervisors: to be defined

Specific Outcomes:

In the second year the students can have their internship in any university after approval by the Scientific Commission of the course. Each student will be supervised by a Professor of Art or a Professor of Science or both.

Thesis

Procedure

- 1. The thesis topic is to be presented to the core advisors at the end of the 2nd semester of study. Spring semester**

- 2. An outline of the thesis will be presented to the core advisors at beginning of the 3rd semester of study - Fall Semester**

- 3. A minimum of two (2) drafts of the thesis will be presented to the full committee. Committee members will respond to the draft verbally or in writing.**

- 4. A final copy of the thesis will be presented to the core advisors and the full committee three weeks before the end of the 4th semester of study.**

- 4. The Department chairperson will instruct the graduate student as to the final steps in order to follow university policy. These procedures must be followed before the student can receive a certified diploma for graduation.**

Thesis Outline

- 1. Cover page**
- 2. Title page**
- 3. Table of contents**

- 4. Thesis Statement of Purpose**
 - a) Topic - you choose the topic - (use your artist statement for the source if necessary)**
 - b) What is the paper about - you will prove that you can make visual work from verbal information or what (25 words max)**
 - c) What is your personal interest or experience within this topic?**
 - d) Make a correlation between your visual work and the topic of the paper (25 words max)**

e) What is the art historical or theoretical precedent for the topic - examples (25 words max)

f) How you use social science or hard science to help prove your argument or discussion in this paper (25 words max) (Social: psychology, sociology, anthropology, etc., hard science: biology, chemistry, physics, etc.

5. Chapter I - title of the chapter?

More specific information about your personal interest in the topic (400 words max 100 words min)

6. Chapter II - title of the chapter?

More specific information about the correlation of your visual work and the topic of the paper

400 words max -100 words min)

7. Chapter III - title of the chapter?

Elaborate about the art historical sources and references (400 words max - 100words min)

8. Chapter IV- title of the chapter?

Explain how social science helped make the argument. (200 words max)

9. Chapter V- title of the chapter?

Conclusion - did it work - was anything in the past chapters that assisted in the proof that it does or doesn't work (400 words max -100 min)

10. Chapter VI- title of the chapter?

Include images of your work and a list of images with captions.

11. Bibliography

List 5 or more books that were used in this research (title, author, date of publishing)

12. Footnote section for quotes – reference, author, chapter title, and page number.

If you quote from these sources - make sure that the sources are credited.

13. Back cover

Graduate Exhibition

1. The graduate exhibition is a requirement for receiving the Master of Glass Art and Science degree from the New University of Lisbon

2. The exhibition must be intricately related to the student's written thesis.

3. The location of the exhibition will be selected by the student and submitted to the Graduate committee for approval. If the exhibition space is denied, the core advisor will work closely with the student to define an appropriate venue for exhibition. It may be on the campus of the university or off campus within the Lisbon region.

4. The students may show work with other students but the exhibitions must be in clearly defined spaces.

5. The Graduate exhibition must take place within the final six weeks of the 4th semester of studies. Students being asked to work beyond the fourth semester must present their exhibition within the final six weeks of their "technical fourth semester". The "technical fourth semester" will be defined as the semester approved by the Chairperson of the department.

6. The student will be responsible for printing the announcements, holding a reception for the opening of the exhibition, shipping the artwork to the exhibition site, installation of the artwork, lighting the exhibition, and deinstallation of the exhibition.

7. The student will assemble the committee for a final review of her/his artwork before the exhibition is deinstalled. The graduate committee will determine if the exhibition reflects the development of the student's work and to receive the Master of Glass Art and Science degree.

Curriculum Abstract

1st year 1st semester

Studio: one course, Exploring process and concepts

Science: Principles of Glass

Art History: one course, (recommend, if you have a choice, take Contemporary Art, Philosophy or Art Theory)

Seminar: One course, To Be Arranged - TBA

1st year 2nd semester

Studio: one course, students will further develop ideas that were explored in the First course or develop new work related to process and concepts

Science: one course

Art History, one course - (recommend, if you have a choice, take Contemporary Art, Philosophy or Art Theory)

Seminar: Research Paper, 10 weeks of one project per week

Thesis Statement due by mid semester

2nd year, 3rd semester

Studio: Work will begin on the thesis exhibition and the written thesis

Thesis: one course

Seminar: TBA

Candidate Review: thesis drafts due as per TBA

2nd year 4th semester

Studio: Students will complete work for their graduate exhibition.

Thesis: Thesis will be submitted to committee and core advisors by the mid point in the semester so

Rewrites and corrections can be made.

Review: Final Graduate committee review

Requirements for receiving the Masters Degree in Glass and Science

(a) Presentation of a graduate exhibition

(b) Presentation of a written thesis

(c) Approval of the Graduate Committee**(d) Other procedures on request from Department Chairperson**

Student Exhibition:

Exhibition spaces at UNL are located in the Library and there are numerous galleries and open spaces in the Lisbon area

Location:

The New University of Lisbon is located ten kilometers from the village of Costa de Caparica, on the coast of the Atlantic Ocean. The village has beaches and recreational facilities although the NUL has a pool, gym, track and other facilities. Costa Caparica is across the ??? bridge from the city of Lisbon. There are museums, restaurants, theater, music and numerous cultural events in the city.

Academic Information

Graduate committee

1. Each student will have a graduate committee. The committee will be made up of two core advisors; Robert Wiley and professor Marcia Vilarigues. Invited Visiting professors, Michael Taylor and Richard Meitner are members of the review committee and may assist in the content, structure, and proof reading of thesis drafts. The committee will help prepare the student for graduate reviews. Other members are assigned faculty from UNL and/or UL.

2. Students may request that the full committee be present for the reviews, Wiley, Vilargues, Taylor and Meitner.

Graduate Reviews

The first graduate review committee meeting is to review the students work and to determine, if the student is ready to complete further study for the second year.

A record of this review will be kept in the student's permanent record and will be accompanied by a report of the decision and recommendations of the graduate committee.

Date and time to be determined by the Department Chairperson, Professor Marcia Vilargues

The second graduate review will take place after the 3 quarters of class work by the graduate student. At this time the graduate student will be directed to the following options

- a. Allowed to proceed to his /her graduate thesis exhibition.
- b. Given a critical review of the thesis by the full committee.
- c. Asked to complete additional work in order to proceed to the final thesis and exhibition.