



Course name	Methodology of conservation and restoration of glass
Entity running the course	Faculty of Ceramics and Glass/Department of Conservation and Restoration of Ceramics and Glass
Entity for which the course has been prepared	Faculty of Ceramics and Glass/Department of Conservation and Restoration of Ceramics and Glass
Course type	Specialty course, compulsory course.
Year of study/semester; Type of studies	Year III, semester 5 and 6; full time master's degree studies
ECTS credits	1
Academic tutor	Ph.D. Katarzyna Wantuch-Jarkiewicz
Aim of the course	The aim of the course is theoretical and practical presentation of the methods and means used in the conservation and restoration of historical, archaeological and contemporary glass. Presentation of glass conservation and restoration materials used in the past and nowadays. Discussion on the processes and effects occurring on the glass, depending on destructive factors and the environment, based on knowledge of physical and chemical properties of the raw materials glass historical objects have been made of.
Prerequisites	Elementary knowledge of the technology of glass.
Learning outcomes:	
- <i>knowledge</i>	Having completed the course, the student should be able to correctly assess the state of preservation of a historical glass object, as well as identify the causes of its destruction and know the methods of conservation and restoration of glass.
- <i>skills</i>	The student should be able to indicate the direction of conservation and restoration of the glass object. They are expected to be able to prepare a preliminary project of conservation and to make an attempt to choose proper materials to carry out the conservation and restoration treatments of glass objects.
- <i>personal and social competence</i>	The student learns to make conscious choices, based on the acquired knowledge and experience. Teamwork and exchange of experiences strengthen their self-confidence and show the relativity of choices that ultimately are made for each object separately.
Course content	The content of the course is to explain the physical and chemical properties of the materials glass historical objects have been made of. Presentation of the materials for conservation and restoration of glass, used in the past and nowadays. Explanation of the issues associated with the process of corrosion of glass, in reference to various glass masses, types of corrosive environments and other destructive factors. Introduction of the methodology of conservation and restoration of glass objects. Introduction of the fundamentals of preventive and protective conservation of glass in museums and private collections.
Course form and number of course hours	Lecture – 2 hours a week, 30 hours a semester, exercising methods and means – 30 hours a semester.
Assessment methods and criteria	50 % active participation in classes and regular attendance. 50% graded pass in a written form - semester 6
Assessment type	Semester 5: pass Semester 6: graded pass.



Literature

1. Biskont J., 2005, Późnośredniowieczne wyroby szklane z ratowniczych badań archeologicznych w rejonie ulic Szewskiej i Wita Stwosza we Wrocławiu, /Late medieval glassware of rescuing archaeological research in the area of streets: Szewska and Wita Stwosza in Wrocław/, /Śląskie Sprawozdania Archeologiczne, /Silesian Archaeological Reports/, V. 47 (2005), 193-206, fig. - 6, tab. 1.
2. Brill R.H., 1999. Chemical Analyses of Early Glasses, v. 1, 2, Corning, New York.
3. Ciepela-Kubalska S., 199, Szklance fletowate ze Starego Miasta w Warszawie (XIV/XV – 1 ćwierć XVII wieku), /Glass flute vessels from the Old Town in Warsaw (XIV / XV – the first quarter of the seventeenth century)/ [in:] Acta Universitatis Nicolai Copernici, Archeologia XIX – Nauki Humanistyczne – Społeczne, /Archaeology XIX – Humanistic – Social Sciences/, Notebook 223, pp. 25 - 42.
4. Davison S., Newton R., 1996, Conservation of Glass; Butterworth-Heinemann, Oxford.
5. Dekówna M., 1980, Szkło w Europie wczesnośredniowiecznej, /Glass in the early medieval Europe/ Zakład Narodowy imienia Ossolińskich, /National institute of Ossoliński/, Wrocław.
6. Domasławski W., 1971, Hydrofobizacja szkła przy pomocy alkilochlorosilanów i alkilalkoksylanów, /Hydrophobization of glass with the use of ... , Scientific Notebooks of the University of Mikołaj Kopernik, Zabytkoznawstwo i Konserwatorstwo 4, /Science of Monuments and Conservation 4/, Toruń 1971, p. 111 – 125.
7. Greiner – Wronowa E., Pusoska A., Piasecka D., 2007, Biały nalot na obiektach szklanych w gablotach muzealnych, /White coating on the glass objects in museum display cases/, [in:] Szkło i Ceramika, /Glass and Ceramics/, Yearbook 58, pp. 26 - 31.
8. Iwanicka M., 2008, Przykłady zastosowania tomografii optycznej (OCT) do badań materiałowych i analizy struktury dzieła sztuki, /Examples of the use of optical tomography (OCT) for research and analysis of the material structure of the work of art./, [in:] Acta Universitatis Nicolai Copernici, Zabytkoznawstwo i Konserwatorstwo XXXVI – Nauki Humanistyczne – Społeczne, /Science of Monuments and Conservation XXXVI – Humanistic- Social Sciences/, Notebook 386, Toruń, pp. 176 - 190.
9. Kunicki – Goldfinger J.J., 2008, Unstable historic glass: symptoms, causes, mechanisms and conservation, [in:] Reviews in Conservation Number 9, pp. 47 – 60.
10. Kunicki–Goldfinger J.J., 2005, Konserwacja i badania dwóch szklanych naczyń z rzymskiego Novae, /Conservation and research of two glass vessels from the Roman Novae/ [in:] Acta Universitatis Nicolai Copernici, Archeologia XXIX, Nauki Humanistyczne – Społeczne, /Archaeology XXIX, Humanistic- Social Sciences/ Notebook 370, pp. 269 - 278.
11. Łydzba – Kopczyńska B., 2013, Analizy specjalistyczne i konserwacja zabytków ze średniowiecznego skarbu z Głogowa z 1987 r., /Specialized analyzes and conservation of monuments of the medieval treasure of Głogów of 1987/, 2013.
12. Majewski E., 1907, Wskazówki do konserwowania wykopaliisk przedhistorycznych, /Tips for conservation of prehistoric excavations/, Światowit, v. 8.
13. Markiewicz M., 1991, Szkło w ikonografii – problemy interpretacyjne, /Glass in iconography - problems of interpretation/ [in:] Acta Universitatis Nicolai Copernici, Archeologia XVIII, Nauki Humanistyczne – Społeczne, /Archaeology XVIII, Humanistic- Social Sciences/ Notebook 210, pp. 289 - 293.
14. Markiewicz M., 2005, Doświadczalne, hutnicze formowanie szklanych pucharków dzwonowatych na podstawie wczesnonowożytnych oryginałów, /Experimental, metallurgical formation of bell glass cups on the basis of the early modern originals/ [in:] Acta Universitatis Nicolai Copernici, Archeologia XXIX, Nauki Humanistyczne – Społeczne, /Archaeology XXIX, Humanistic- Social Sciences/ Notebook 370, pp. 279 - 284.
15. Nawracki M., 1999, Późnośredniowieczne i nowożytne szkła z terenu zamku krzyżackiego w Toruniu, /Late medieval and modern glass from the area of the castle of the Teutonic Knights in Toruń/ [in:] Acta Universitatis Nicolai Copernici, Archeologia XXVII, /Archaeology XXVII/ Toruń, pp. 53 – 132.
16. Koob S.P., 2006, Conservation and Care of Glass Objects, Archetype Publications,
17. Miszczyk T., 2006, Dawne hutnictwo szkła w Karkonoszach i Górach Izerskich, /Former glassworks in Karkonosze and Izerski Mountains [in:] Archeologia Żywa 2 (36), /Living Archaeology 2 (36)/
18. Krawczyk M., Romiński W., 1999, Wyroby szklane z XII – XVIII w. z badań archeologicznych w Nysie, /Glassware of XII - XVIII century of the archaeological research in Nysa/, Silesia Antiqua 40, pp. 133 – 159.
19. Olczak J., 1978, Analiza naczyń szklanych, /Glass vessels analysis/, [in:] Materiały sprawozdawcze z badań zespołu pobenedyktynskiego w Mogilnie, z. 1, /Reports on the research of post-Benedict team in Mogilno/, Biblioteka Muzealnictwa i Ochrony Zabytków, /Library of Museology and Protection of Monuments/, Series B, Vol. 52, Warsaw 1978, pp. 130 - 155.
20. Olczak J., 1965, Wytwórczość szklarska na terenie Polski we wczesnym średniowieczu. Studium archeologiczno – technologiczne, /The glass output in Poland in the early Middle Ages. The archaeological and technological study/, [in:] Studia z dziejów rzemiosła i przemysłu, /Studies in the history of trade and industry/ Vol.8, Z. Kamińska edit., Studia i materiały z historii kultury materialnej, / Studies and materials of the history of material culture/, Vol. 35, A. Gieysztor edit., Wrocław – Warszawa – Kraków 1968, p. 7.
21. Purowski T., 2012, Wyroby szklane w kulturze łużyckiej w międzyrzeczu Noteci i środkowej Odry. Studium archeologiczno – technologiczne, /Glassware in Sorbian culture in the region between Noteć and middle Odra. The archaeological and technological study/ ; Instytut Archeologii i Etnologii Polskiej Akademii Nauk, Warszawa, / Institute of Archaeology and Ethnology of the Polish Academy of Sciences, Warsaw/.
22. Purowski T., 2013, Wyroby ze szkła i „szklatego fajansu” odkryte na cmentarzysku kultur łużyckiej i regionalnej grupy kręgu halsztackiego w Domasławiu, pow. Wrocławski, /Glassware and "glassy faience" discovered in the cemetery of Sorbian culture and regional group of Hallstatt in Domasław, district of Wrocław, Archeologia Polski, /Archaeology of Poland/ v. LVIII, pp. 23 – 87.
23. Rubnikowicz M., 1959, XVIII – wieczne naczynia szklane odkryte na Starym Mieście w Toruniu, /XVIII century glass vessels discovered in the Old Town in Toruń/, [in:] Acta Universitatis Nicolai Copernici, Archeologia XIV, /Archaeology XIV/, Archeologia Szkła /Archaeology of Glass 3/, Toruń, pp. 73 – 84.
24. Rzeźnik P., 1998, Paciorki szklane z wczesnośredniowiecznego grodziska w Gostyniu na Dolnym Śląsku, /Glass beads from the early medieval settlement in Gostyn in Lower Silesia/ [in:] Kraje słowiańskie w wiekach średnich. Profanum i sacrum, /Slavic countries in the Middle Ages. The profane and the sacred/ edit. H. Kóčka – Krenz, W. Łosiński, Poznań, pp. 380 – 391.
25. Soldenhoff B., 1991, Próba określenia typów zniszczeń szkła archeologicznych, / Attempting to specify the types of archaeological glass damage/, [in:] Acta Universitatis Nicolai Copernici, Archeologia XIX, Nauki Humanistyczne – Społeczne, / Archaeology XIX, Humanistic- Social Sciences/, Notebook



AKADEMIA SZTUK PIĘKNYCH  
IM. EUGENIUSZA GEPPERTA  
WE WROCŁAWIU

Teaching aids	
Language of instruction	Polish with the possibility of running the course in English.