

CONSERVATION AND RESTORATION OF ANCIENT POTTERY AND GLASS – MACEDONIA & BULGARIA

Course ID: ARCH XL 159

June 3–July 8, 2017

DIRECTORS:

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PROJECT COORDINATORS:

Ms. Angela Pencheva – Project coordinator (Stobi), Balkan Heritage Foundation Director, PhD candidate at Humboldt University, Berlin, Germany

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INTRODUCTION

This course is mainly focused on conservation and restoration of ancient Greek and Roman pottery and gives basic introduction to treatment, conservation and restoration of glass objects.

It consists of two parts implemented in two neighboring European countries. The initial three weeks will take place at the site of Stobi, Republic of Macedonia and the final two weeks will take place at Sozopol, ancient Apollonia Pontica, Bulgaria. Stobi was an important Roman city and reached its zenith of power during the 1-3 centuries CE. Apollonia was one of the richest and most prosperous Ancient Greek colonies in the Black Sea region in Archaic, Classical and Hellenistic period.

The main goal for this program is to provide theoretical and hands-on training experience on pottery and glass conservation. It does so through the exposure of students to two different site labs, enabling them to evaluate and appreciate similarities and differences in conservation problems, approaches, methods, technique, design and material choice applied on different types of artefacts. This field school supports the archaeological efforts in both sites and will integrate conservation efforts into the larger scheme of broad archaeological project.

The pottery and the glass vessels for the workshop in Republic of Macedonia comes from the excavations of the Roman and Early Byzantine city of Stobi and is provided by the National Institution Stobi (NIS). These are mainly locally produced Roman and Late Roaman ceramic shapes. The pottery for the workshop in Bulgaria is part of the collection of the Archaeological Museum – Sozopol, Bulgaria and originates from cult/funeral fireplaces in the ancient Greek and Hellenistic necropolis of Apollonia Pontica (6th – 2nd century BCE) which is one of the largest ancient Greek necropoleis ever excavated. The represented shapes are black glazed drinking vessels and plates with local or imported origin.

Students begin their training with replicas of ancient vessels and then progress to originals once they reach an acceptable level of skill, accuracy and precision. Most students will be able to master conservation and restoration efforts within the course of this field school and expect to complete work on 2-5 artifacts by the end of the program, depending on the initial state of objects' conservation, the necessity of conservation treatment and the individual performance of the student.

Upon successful completion of the course, students will be prepared to take part in projects for conservation, restoration and documentation of archaeological pottery, under the supervision of professional conservators and restorers.

ACADEMIC CREDIT UNITS & TRANSCRIPTS

Credit Units: Attending students will be awarded 12 quarter credit units (equivalent to 8 semester units) through our academic partner, UCLA Extension. UCLA is a top ranked research university and its archaeology program is ranked amongst the best in the country. All IFR field schools instructors and curricula are approved both by the corresponding academic department and the Academic Senate at UCLA. This field school provides a minimum of 192 direct instructional hours.

Transcripts: Transcripts are available through UCLA UnEX and instructions for ordering transcripts may be found at <http://bit.ly/2bD0Z3E>. Grades will be posted and transcript available usually within six weeks after the end of this field school. All IFR field schools are designated XL classes – courses that are equivalent to undergraduate courses offered by the UCLA regular session. All XL courses are transferable for unit and subject credit toward the Bachelor's Degree at all campuses of the UC and CSU systems. Classes numbered 100 to 199 are considered upper division (junior/senior). For more information, go to <http://bit.ly/2bjAqmy>.

UCLA students: Students can take classes through UCLA Extension to complete requirements. However certain considerations must be taken into account. For more information, go to <http://bit.ly/2bJWeHK>.

Credit Units Transfer: Most universities accept UCLA credit units – there are very few exceptions. Students are strongly encouraged to discuss the transferability of the credit units with school officials BEFORE attending the field school.

COURSE OBJECTIVES

The objective of this program is to prepare students to take part in archaeological ceramics conservation and restoration activities. The activities in this program will include the following:

1. Introduction to fundamental ethical principles of conservation and restoration. These include among others the principles of reversibility, compatibility, retreatability and authenticity, and the principle of minimal intervention. Detailed documentation process and basic requirements for conservation materials are also discussed.
2. Introduction to the aesthetic principles of conservation: partial or complete restoration of the original appearance of the object without eliminating the impact of time on it, preserving the artistic values of the artefact, hiding or pointing out restored parts.

3. Presentation of the main causes for deterioration, especially upon excavation.
4. Introduction to preliminary pottery and glass analyses and condition assessment of the finds: observations under low and high magnification, sampling and samples, instrumental analyses. Results as a base for informed conservation treatment proposal.
5. Training through practical exercises: basic conservation and restoration activities: damage assessment and classification, conservation plan, mechanical and chemical cleaning, desalination and consolidation of pottery shards, reassembling fragmented objects, in-filling, retouching, and detailed documentation.
6. Introduction to conservation documentation, including its visual, historical, and technical aspects as well as conservation treatment performed on the object.
7. Introduction to post conservation monitoring process.
8. Introduction to technological characteristics and technology of ancient pottery and glass and their changes through time.
9. To prepare students to create, organize and maintain artefacts and conservation databases.
10. Collection and keeping both data and metadata about objects and their documentation safe.
11. Introduction to advanced photo documentation techniques, such as: Reflectance Transformation Imaging and Colour Decorrelation Stretching.
12. Introduction to the archaeological and historical contexts of the restored materials – sites, cultures, research problems, etc.
13. Introduction to health and safety requirements in a conservation lab.

DISCLAIMER – PLEASE READ CAREFULLY

You should be aware that conditions on the Balkans are different than those you experience in your home, dorms or college town. Note that South European (subtropical) climate dominates in the region, making summers hot (30-40⁰C). Rainy and chilly days in this season are rare but not unheard of.

If you have any medical concerns, please consult your doctor. For all other concerns, please consult with the project director – as appropriate.

COURSE SCHEDULE

Both workshops' schedules consist of four modules:

MODULE I - Theoretical module (45 hours for both workshops). Covers the following topics:

1. Greek, Roman and Late Roman pottery, and glass history and technology. This will include production technology, physical and chemical properties, shape & design.
2. Conservation documentation. Lectures focusing on visual documentation, including regular photography, software manipulation (Corel Draw) and data & metadata documentation of visual record, technical photography, reflectance transformation imaging (RTI), color decorrelation stretching.
3. Analytical methods used to determine the chemical composition and the physical properties of artifacts, the damaging processes influencing the artifacts' condition upon excavation
4. Preventive conservation treatment in situ and subsequent lab conservation treatment of retrieved objects
5. Lectures focusing on the historical and archaeological context of the treated materials.

MODULE II – Practicum (app. 130 hours for both workshops). Consists of four components:

1. Workshops dedicated to materials and production, which include the full production of replica vessels and explore the challenges related to production technology as practiced in the past.

2. Workshops dedicated to pottery and glass photographic and graphic technical documentation.
3. Workshops dedicated to ceramics and glass conservation.
4. Workshops dedicated, reflectance transformation imaging (RTI), colour decorrelation stretching.

MODULE III - Excursions accompanied by lectures, presentations and study visits to sites of historical/archaeological significance such as the town of Bitola (Archaeological Museum) and the Heraclea Lyncestis excavation site, the town of Ohrid (Ancient Lychnidos, UNESCO World Heritage Site) in Republic of Macedonia, Pella and Vergina (UNESCO World Heritage Sites) in Greece, the Bulgarian capital Sofia and the ancient town of Nessebar (UNESCO World Heritage Site) on the Black Sea Coast.

MODULE IV – Homework (est. 10 hours for both projects) will be assigned to all students, which will consist of editing and processing students' conservation documentation (journal, conservation forms, drawings, photos, etc.) and preparing presentations and reports.

Date	Morning	Afternoon
Day 1 3 June		- Meeting students at Skopje airport. Transfer to Stobi. - Traditional Macedonian welcome dinner
Day 2 4 June	Orientation. Presentation of National Institution Stobi, Balkan Heritage Foundation – Institute for Field Research Joint Program, the Field School agenda and goals, the team and participants, some practicalities Lecture: History of Stobi and Macedonia in Roman and Late Roman period (2nd century BCE – 6th century CE)	Lecture: From the Field to Storage: <i>review of basic methods for recovering, “first aid” consolidation in situ, cleaning, lifting and packing for transportation, , labeling, documenting and storing ceramic and glass artefacts</i> Stobi sightseeing tour
Day 3 5 June	Lecture: Material Science and Technology. Clay properties and changes during firing. Lecture & Workshop: typology and chronology of Roman and Late Roman pottery with examples from Stobi. Sorting and selecting different types of Roman and Late Roman pottery shards	Lecture: Deterioration of ceramics objects. <i>Soluble salts, porosity, firing; choosing the most appropriate conservation treatment for each object</i> Workshop: Cleaning and sorting of Roman and Late Roman pottery shards
Day 4 6 June	Lecture: Conservation and restoration of Roman and Late Roman Objects. Basic steps and principles. Ethics and conservation <i>Cleaning of ceramic objects: methods of dirt removal, mechanical and chemical methods of salt efflorescence removal, desalination of the ceramic body. Extraction of cleaning and/or desalination agents from the ceramic body. Consolidation – need, methods and materials; requirements. Assembly of the fragments – adhesives and requirements. Methods of temporary fixing. Molds and temporary supports. Gap filling, modelling and finishing</i>	Study Excursion & Workshop: Visit to a local traditional pottery workshop in the town of Veles. <i>Experimenting with pottery making</i>

	<p><i>touches.</i></p> <p>Lecture: Required documentation for pottery and glass conservation.</p> <ul style="list-style-type: none"> • <i>Graphic documentation</i> • <i>Graphic reconstruction</i> • <i>Photographing</i> • <i>Conservation journal</i> • <i>Conservation history list</i> • <i>List of used materials and safety data sheets</i> 	
Day 5 7 June	<p>Lecture & Workshop: Introduction to technical photography</p>	<p>Workshop: Conservation and restoration of Roman and Late Roman Objects.</p> <p>Preliminary assembly of fragmented objects – methods of temporary fixing of the loose parts. Final assembly – fitting the fragments together, application of adhesive and cleaning of the excess adhesive around the joints. Methods of temporary mechanical stabilization during adhesive setting.</p>
Day 6 8 June	<p>Workshop: Conservation and restoration of Roman and Late Roman Objects.</p> <p>Gap filling – methods. Preliminary processing of break lines and surrounding areas. Temporary protection. Temporary supports for plaster in-fills. Additional modelling of the reconstructions. Cleaning of the areas surrounding the in-fill. Documentation – finishing touches.</p>	<p>Lecture & Workshop: Technical drawing documentation. Pottery fragments</p>
Day 7 9 June	<p>Workshop: Conservation and restoration of Roman and Late Roman Objects. Conservation treatment of original objects. General instructions.</p> <p><i>Assigning selected number of objects to each participant. Specifics of working with original objects. Removal of unwanted material (soil, salts, etc.) and extraction of cleaning agents. Assembly of the fragments with appropriate adhesive, removal of excess of adhesive. In-fills and their additional processing.</i></p>	<p>Lecture & Workshop: Technical drawing documentation. Entire vessels.</p>
Day 8	<p>Excursion: Guided visit to Bitola and the ancient city of Heraclea Lyncestis</p>	

10 June		
Day 9 11 June	Excursion: Guided visit to Ohrid: Ancient Lychnidos (UNESCO World Heritage Site) and Ohrid lake	
Day 10 12 June	Workshop: Conservation and restoration of Roman and Late Roman Vessels. <i>Conservation treatment of original objects. Continued (the exact activities depend on the number of assigned objects and the complexity of each object; as well as on the individual progress of each participant. All activities are closely supervised by and discussed with professional conservator)</i>	Workshop: Conservation and restoration of Roman and Late Roman Vessels. <i>Conservation treatment of original vessels. Continuation: refining the plaster, cleaning the vessel from extra plaster, consolidation</i>
Day 11 13 June	Workshop: Conservation and restoration of Roman and Late Roman Objects <i>Conservation treatment of original objects. Continued (the exact activities depend on the number of assigned objects and the complexity of each object; as well as on the individual progress of each participant. All activities are closely supervised by and discussed with professional conservator)</i>	Workshop: Archaeological Documentation – <i>Digitalization of pottery graphic documentation</i>
Day 12 14 June	Workshop: Conservation and restoration of Roman and Late Roman Objects. <i>Conservation treatment of original objects. Continued (the exact activities depend on the number of assigned objects and the complexity of each object; as well as on the individual progress of each participant. All activities are closely supervised by and discussed with professional conservator)</i>	Workshop: Archaeological Documentation – <i>Digitalization of pottery graphic documentation.</i>
Day 13 15 June	Workshop: Conservation and restoration of Roman and Late Roman Objects. <i>Final conservation treatment of original objects. Continued (the exact activities depend on the number of assigned objects and the complexity of each object; as well as on the individual progress of each participant. All activities are closely supervised by and</i>	Workshop: Accomplishing the conservation documentation for the conserved vessels.

	<i>discussed with professional conservator)</i>	
Day 14 16 June	Preparation of power point presentation of the workshop's results.	Presentation of the Workshop results. Discussion with the instructors. Evaluation meeting and conclusion.
Day 15 17 June	Day off	
Day 16 18 June	Guided visit of Pella and Vergina (UNESCO World Heritage Site), Greece	
Day 17 19 June	<p>Lecture. History of Pre-Roman and Roman glass technology. Chemical composition of glass. <i>Forms of natural silica, forms of natural glasses, core formed glass vessels, mosaic glass; mold formed vessels, glass blowing, free blown vessels, mold blown objects, cage cups etc.</i></p>	<p>Lecture. Basic techniques in ancient glass conservation and restoration.</p> <p><i>Deterioration of glass, chemical deterioration, superficial disfigurement, physical damage, cleaning of glass, preliminary assembly, final assembly using medical tape, application of omega clips, application of resin, removal of the omega clips, cleaning of extra resin and adhesive, mold making (using dental silicon and rubber) application of the gap filling resin, refining the additions.</i></p> <p>Lecture. Materials used for cleaning, stabilization and conservation of ancient glass. <i>Choosing a consolidants and adhesives for archaeological glass; different resin types, solubility, ageing properties, reversibility, working properties.</i></p>
Day 18 20 June	<p>Workshop: Conservation and restoration of Roman and Late Roman Glass Objects.</p> <p><i>Mechanical and chemical cleaning of selected original glass shards.</i></p>	<p>Workshop: Conservation and restoration of Roman and Late Roman Glass Objects.</p> <p><i>Initial documentation of the condition of glass replicas fragments'. Assembly of fragments of Roman or Late Roman object with medical tape</i></p>
Day 19 21 June	<p>Workshop: Conservation and restoration of Roman and Late Roman Glass Objects.</p> <p><i>Final assembly, application of omega clips.</i></p>	<p>Workshop: Conservation and restoration of Roman and Late Roman Glass Objects.</p> <p><i>Application of resin on the cracks. Molds making for gap filling of glass vessels.</i></p>

Day 20 22 June	Workshop: Conservation and restoration of Roman and Late Roman Glass Objects. <i>Removal of the omega clips, cleaning from extra resin and adhesive.</i>	Workshop: Finishing touches to the conservation and documentation of the treated objects. Farewell dinner and party
Day 21 23 June	Preparation of power point presentation of the workshop's results. Presentation of the Workshop Results and Evaluations	Trip from Stobi to Sofia. Arrival and check-in.
Day 22 24 June	Sofia sightseeing tour. Trip from Sofia to Sozopol. Arrival and check-in. Welcome dinner	
Day 23 26 June	Orientation. Presentation of the workshop agenda and goals, the new team and the participants, some practicalities, etc.	Sozopol Old Town sightseeing and orientation walk
Day 24 27 June	Lecture: Conservation of ancient Greek pottery – part I. (<i>Conservation of artifacts “in situ”. Properties and deterioration of the pottery from Apollonia Pontica, V-VI century BCE. Conservation strategy and methods</i>). Lecture: Conservation of ancient Greek Pottery – part II. <i>Analytical methods used to determine the physical and the chemical parameters and properties of ceramic artifacts, as well as the changes occurred in the materials due to environmental influences</i>	Lecture: Technology, typology and chronology of ancient Greek and Hellenistic Pottery with examples from Apollonia Pontica. Visit to Sozopol Archaeological Museum. Workshop: Analyzing, sorting out and selecting of ancient pottery shards for conservation and documentation.
Day 25 28 June	Workshop: Conservation of ancient Greek pottery. <i>Preliminary study of the objects; condition assessment and documentation</i>	Lecture: History of the Greek colonization of the Western Black Sea coast (seventh - fifth century BCE)
Day 26 29 June	Workshop: Conservation of ancient Greek pottery. <i>Initial treatment – mechanical removal of deposits from the ceramic surface</i>	Lecture: History of Apollonia Pontica in Antiquity (seventh century BCE - sixth century CE)
Day 27 30	Workshop: Conservation of ancient Greek pottery <i>Chemical removal of deposits from the</i>	Lecture: Ancient Greek cemeteries and funeral rites with examples from the Western Black Sea coast

June	<i>ceramic surface</i> <i>Problems caused by the presence of salts. Desalination of the ceramic artifacts – necessity and specifics of the desalination of ceramics from marine areas; limits (theory and practice).</i>	
Day 28 30 June	Excursion to Nessebar (UNESCO World Heritage Site)	
Day 29 1 July	Day off	
Day 30 2 July	Workshop: Conservation of ancient Greek pottery <i>Consolidation of the ceramic body. Consolidants and methods (theory and practice). Requirements, new materials. Compatibility.</i>	Lecture & Workshop: Reflectance Transformation Imaging (Capture)
Day 31 3 July	Workshop: Conservation of ancient Greek pottery <i>Assembly of fragmented objects – adhesives for ceramics. Requirements, properties and types. Obsolete and new materials (theory and practice).</i>	Lecture & Workshop: Reflectance Transformation Imaging (Processing)
Day 32 4 July	Workshop: Conservation of ancient Greek pottery <i>Reconstruction of missing parts of the ceramic body. Different materials and their properties. Requirements, compatibility.</i>	Workshop: Reflectance Transformation Imaging (Capture & Processing).
Day 33 5 July	Workshop: Conservation of ancient Greek pottery <i>Reconstruction of missing parts of the ceramic body. Different materials and their properties.</i>	Workshop: Colour Decorrelation Stretching
Day 34 6 July	Workshop: Conservation of ancient Greek pottery <i>Retouching of the reconstructed parts.</i> Exam	Lecture Ethics and aesthetics in the conservation of archaeological ceramics Workshop: Conservation and restoration of ancient Greek pottery. Finalizing activities.
Day 35	Submission of the treated vessels at the Museum of Archaeology - Sozopol	- Free time

7 July	Presentation of the Workshop results. Evaluation meeting and Conclusion Exam	- Dinner and farewell party
Day 36 8 July	Departure	

The course structure may be subject to change on the director's discretion.

Typical work day

7:00 – 8:00	- Breakfast
8:30 - 13:00 / 13:30	- Workshop for Conservation and Restoration of Ancient Pottery/Glass
13:30 - 15:30 / 17:00	- Lunch and siesta
15:30/17:00 – 19:00/19:30	- Lectures and workshops
19:30/20.00 – 21:00	- Dinner

GRADING MATRIX

Students will be graded based on their work as follows.

% of Grade	Activity
20%	Roman and Late Roman Pottery Conservation
20%	Ancient Greek Pottery Conservation
15%	Conservation of ancient Glass
15%	Technical drawing of pottery & digitizing of the graphic documentation
10%	RTI documentation
20%	Final Exam

Students' performance in the both parts of the field school (in Macedonia and in Bulgaria) will be evaluated separately. Grades and the performance will be communicated by the both teams under the Balkan Heritage Foundation supervision.

ATTENDANCE POLICY

The required minimum attendance for the successful completion of the field school is 85% of the course hours. Any significant delay or early departure from an activity will be calculated as an absence from the activity. An acceptable number of absences for medical or other personal reasons will not be taken into account if the student catches up on the field school study plan through additional readings, homework or tutorials with program staff members.

PREREQUISITES

None. This is hands-on, experiential learning and students will work in the lab and learn how to conduct conservation, restoration and documentation work. These activities involve patience, careful work and concentration, and thus require a measure of acceptance that is not found in the typical university learning environment. Students are required to come equipped with sufficient excitement and the understanding that conservation and restoration endeavor requires hard work, patience, discipline, close concentration and attention to detail.

The Conservation & Restoration Field School will host students and professionals from all over the world. With such an international team, it is vital that all students respect the IFR code of conduct, each other's cultures, and local organizational, social and cultural rules and laws.

EQUIPMENT LIST

- Work clothes
- A set of walking and hiking shoes.
- Clothing suitable for outdoor activities (consider weather conditions from hot and sunny to rainy and chilly).
- Wide brim hat for the study trips.
- Medication - It is not necessary to bring over-the-counter medicine from your country since you can buy all common types in Bulgaria (e.g. aspirin and anti-insecticides, sunscreen/tanning lotion, etc). It is recommended that you bring your individual prescription medicines, if any.
- Don't forget to bring a converter to an EU type electricity wall-plug if needed.
- It is recommended that participants bring PCs having at least 5 GB free disk space and a mouse. Operation system recommended: Windows.
- A good attitude for work, fun, study and discoveries.

ACCOMMODATION

In Stobi (Republic of Macedonia): Participants will stay at renovated air-conditioned cabins at the archaeological base next to the ancient ruins of Stobi. Students will be housed in rooms with 2-3 beds each. Each cabin has four bedrooms, a living room and two bathrooms with showers. A washing machine and Wi-Fi are available for free.

The closest village to Stobi is Gradsko (4 km), where there are a couple of food & beverage shops, a pharmacy, an ATM and a medical office. The closest supermarkets, drug-stores, pharmacies, banks with ATM and hospitals are in the towns of Negotino, 12 km away, Kavadarci, 17 km away, and Veles, 23 km away.

In Sozopol (Bulgaria): Accommodation will be either at the Dom Mladenovi guest house (www.dommladenovi-sozopol.com) or at the VMK Military Club, both of which have comfortable rooms with private bathrooms, air-conditioning, refrigerators, TV and Internet. The hotels are located close to the town beaches, the Old Town Quarter, the Archaeological Museum and the archaeological labs (10-20 minute walks).

Staying an extra day cost 30 USD. Single rooms are available upon request for an additional fee of 125 USD per week (**The prices may slightly vary due to the USD rate fluctuations**).

MEALS

Three meals (fresh, homemade food) per day are covered by the tuition fee. Meals, except for lunch packages during the excursion, usually take place at the field house premises in Stobi and in a family tavern in Sozopol. This field school can accommodate vegetarians, vegans and individuals with lactose-intolerance diets. Kosher and gluten-free restrictions are impossible to accommodate in these locations.

TRAVEL, MEETING POINT/TIME & DEPARTURE

Arrival: Students will be met by staff members on June 2 at 5:00pm at the Skopje International Airport (SKP). Meeting point is at the arrival area. Look for staff members holding a "Balkan Heritage" sign. From the airport, students will be transferred to the field house at Stobi. The trip takes approximately 1.5 hours but depends on the traffic. It is recommended to exchange/withdraw some Macedonian Denars and buy a bottle of water and visit the restroom before the trip.

If you missed your connection or your flight was delayed/canceled, call, text or email the project staff (email: bhfs.admissions@gmail.com). Local contact information will be provided to enrolled students.

Transfer from Stobi to Apollonia: Students will be transported from Stobi to Sozopol by car/van/minibus with an overnight stay in Sofia. Dorm based hostel accommodation in Sofia is covered by the admission fee. Private double and single rooms are available upon request for an extra fee.

Departure: This field school ends in Sozopol. Students may continue onward travel or return home on July 8. The closest airport is in Burgas, approximately 1 hour by car or bus. Other optional airports are those in Varna (3-4 hours), Sofia (5-6 hours) or Plovdiv (4-5 hours). All airports may be reached by bus or by organized transfers. Students are responsible for their travel from Sozopol to the airport.

VISA REQUIREMENTS

Citizens of EU, EEA, USA, Canada, Japan, Republic of Korea, Australia and New Zealand **do not need a visa** to visit Bulgaria and Macedonia for up to 90 days.

Citizens of all other countries may need a visa. The Balkan Heritage Foundation can send an official invitation letter that should be used at the relevant embassy to secure a visa to the program.

Note that if you plan to visit Turkey during your stay in the Balkans you will need a visa. The Turkish government facilitates the process for tourists by providing the option for obtaining an e-visa at <https://www.evisa.gov.tr/en/>.

For more information about border crossing visit the Balkan Heritage Field School web site at <http://www.bhfieldschool.org/countries/macedonia> and <http://www.bhfieldschool.org/countries/bulgaria> and <http://www.bhfieldschool.org/information/visa-help> and the links provided there.

HEALTH AND SAFETY

Safety and health orientation will take place at the beginning of the program. Stobi's neighboring towns Negotino and Kavadarci (12/17 km away) and Sozopol offer medical care, first aid and pharmacies. Good personal hygiene and relaxation after a day's hard work are good preventatives for the summer flu.

PRACTICAL INFORMATION

Macedonian dialing code: +389

Bulgarian dialing code: +359

Time Difference in Macedonia (Summer time): UTC/GMT +1 hours (April through September)

Time Difference in Bulgaria (Summer time): UTC/GMT +2 hours (April through September)

Measure units: degree Celsius (°C), meter (m.), gram (gr.), liter (l)

Money/Banks/Credit Cards:

The Bulgarian currency is the **Bulgarian LEV (BGN)**. Since 1997, the Bulgarian LEV has been pegged to the EURO at the exchange rate of 1 euro = 1.955 lev (usually sold for 1.94 lev). Bulgarian banks accept all credit cards and sometimes travelers' cheques. Usually banks open at 8.00-8.30 am and close at 17.00-18.00 pm. They work from Monday to Friday. Shopping malls, supermarkets and many shops in Sofia and/or bigger towns and resorts will also accept credit cards. This is not valid for the smaller "domestic" shops throughout the country where the only way of payment is cash. You can see Bulgarian notes and coins in circulation at:

<http://www.bnb.bg/NotesAndCoins/NACNotesCurrency/index.htm?toLang= EN>

The Macedonian currency is the **Macedonian DENAR (MKD)**.

Macedonian banks accept all credit cards and travelers' cheques. Usually banks are open from 8.00 a.m. to 6 p.m. from Monday to Friday and from 8.00 a.m. to noon on Saturday.

You can see Macedonian notes and coins in circulation at:

www.nbrm.mk/?ItemID=C2B15406ABC3BC46B2525F66092FB01D

In both countries you cannot pay in Euros or other foreign currency except in casinos and big hotels (where the exchange rate is really unfair)!

The exchange of foreign currencies is practiced not only by banks but also by numerous exchange offices. **NB!** Most of them don't collect commission fee and have acceptable exchange rates (+/- 0.5-1,5% of the official rate). However, those located in shopping areas of big cities, resorts, railway stations, airports etc. can overcharge you variable amounts. Ask in advance how much money you will get!

ATMs are available all over both countries, and POS-terminals are in most bank offices.

If you plan to use your credit/debit card, please inform your bank on your intention before departure! Otherwise it is very possible that your bank will block your account/ card for security reasons when you try to use it abroad! Unblocking your card when abroad may cost you lots of phone calls and money.

Electricity

The electricity power in the both countries is stable at 220 - Volts A.C. (50 Hertz). Don't forget to bring a voltage converter if necessary!



Outlets generally accept 1 type of plug: Two round pins. If your appliances plug has a different shape, you may need a plug adapter.

Emergency in Macedonia

National emergency number is **112**

Police: **192**

Fire brigade: **193**

Ambulance: **194**

Road assistance: **196**

Emergency in Bulgaria

National emergency number is **112**

REQUIRED READINGS

PDF files of all mandatory readings will be provided to enrolled students via shared Dropbox folders.

Buys, S., V. Oakley. *The Conservation and Restoration of Ceramics*, Oxford, 1993; 3-163.

Cherneva, D. *Richly Decorated Pottery from Apollonia Pontica (4th Century B.C.). Technical Study, Damage Phenomena, and Approach to Conservation*. - Report in the Interim Meeting of the ICOM-CC and Glass Working Group and Corpus Vitrearum - ICOMOS in Amsterdam (In print)

Cherneva, D. Investigations on the Gilding Technology of Antique Ceramics from Apollonia Pontica. *Archaeologia Bulgarica*, XVII, 2, Sofia, 2013, 39-53.

Cherneva, D. Archaeological glass from a mound in Pamuklia (Bulgaria), 1st-2nd century AD: Identification, damage phenomena and conservation, Poster, 17th Triennial Conference ICOM-CC, 2014 Melbourne, Australia.

Cook, R., P. Dupont. East Greek Pottery. London, New York, 1998. p. 1-10; 26 – 70; 77 – 94; 129 – 131; 192 – 206.

Davison S. - Conservation and Restoration of Glass (Oxford, 2006); 1-242.

Elder, A., S. Madsen, G., Brown, C., Herbel, C., Collins, S., Whelan, C., Wenz, S., Alderson and L. Kronthal. 1997. *Adhesives and Consolidants in Geological and Paleontological Conservation: A Wall Chart*. SPNHC Leaflets, Vol. 1 No. 2. http://www.spnhc.org/media/assets/leaflet2_chart.pdf

Hayes, J. W. - Handbook of Mediterranean Roman Pottery (British Museum Press, 1997).

Koob S. P. - Conservation and Care of Glass Objects (London, 2006).

Panayotova, K. Burial and post-burial rites in the necropolises of the Greek colonies on the Bulgarian Black Sea Littoral. - In: Ancient Greek Colonies in the Black Sea - 2, vol. I. BAR International Series, 2007, 87 – 126.

Panayotova, K. The Necropolis of Apollonia Pontica in Kalfata / Bugjaka: In.- Docter, R., Kr. Panayotova, J. de Boer, L. Donnellan, W. van der Put, B. Bechtold, Apollonia Pontica, 2007, Gent, 2008

Pavlova, L., D. Cherneva, N. Velinov. Study on Red-figure Ancient Ceramics. - In Proceedings of the University of Chemical Technology and Metallurgy, Sofia, 2011.

Sease, C. 1992. *A conservation manual for the field archaeologist*. Los Angeles: Cotsen Institute of Archaeology (book available as a free PDF): <http://www.ioa.ucla.edu/publications/pdfs/Conservation%20Manual.pdf>

RECOMMENDED READINGS AND WEB SITES

Amyx, D. A., P. Lawrence. Archaic Corinthian Pottery and the Anaploga Well. – Corinth, vol. VII, part II, Princeton, 1975.

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