

# The International Course on Wood Conservation Technology 2021

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ICWCT Course Report and Evaluation





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The 19<sup>th</sup> International Course on Wood Conservation Technology was held 22<sup>nd</sup> March – 21<sup>st</sup> May 2021. The ICWCT 2020 was cancelled due to the Corona pandemic. As international travel restrictions were still in place in 2021, the course was held entirely online. 20 participants from 18 different countries completed the ICWCT 2021.

The ICWCT is a collaboration between Riksantikvaren (the Norwegian Directorate for Cultural Heritage), ICCROM (The International Centre for the Study of the Preservation and Restoration of Cultural Property) and NTNU (The Norwegian University of Science and Technology).

I would like to thank all the contributors to this first completely online ICWCT, especially Marie Louise Anker, Special Director of Cultural Heritage Management at Nidaros Cathedral Restoration Workshops (NDR), who represented NTNU on the course for the first time. I would also like to thank Shayne Rivers of West Dean College who made an invaluable contribution in the planning and took the lead in helping the other lecturers understand what teaching online means in practice. The lecturers who taught on this first ever online ICWCT, also all made valuable contributions and suggestions to content, structure, and implementation. Teaching online was a new experience for most of us, and through regular meetings and discussions, we managed to create a good learning experience for the 20 participants. This was indeed a joint effort!

In total, approximately 130 hours of learning was prepared, recorded, and made available on the course platform Ed-X. In addition, approx. 40 hours were spent on synchronous meetings using Zoom. In addition to these, further Zoom meetings were organised and held by the participants themselves. Lectures were to a large extent pre-recorded, though all lectures presented a live introductory lecture at the beginning of their Unit and conducted 2 -3 synchronous group discussion every week.

The final exam was organised as a group project using a case study of a building and a wooden object with questions relating to the course curriculum. The group results were presented to a panel of experts. The exam was compulsory and gave 7,5 ECT University credits from NTNU. All participants passed.

The course evaluation consisted of questionnaires after each Unit, a written questionnaire at the end of the course, and an oral evaluation on the last day. A separate evaluation was held with the lecturers after the completion of the course.

The organisers' experiences and the participant evaluations are discussed in the following report.

Anne Nyhamar

*Riksantikvaren, Oslo, September 7th, 2021*

## Introduction

**The 19<sup>th</sup> International Course on Wood Conservation Technology, ICWCT was organised as an online course 22 March – 21 May 2021.**

The course has been held in Norway on a biannual basis since 1984, as one of ICCROM's specialised training courses on material heritage conservation. It provides the possibility for mid-career professionals within the area of conservation of wooden cultural heritage to update and specialise their skills. It also provides an international platform where networking and exchange of knowledge with other professionals from all over the world can take place.

For the first time ever, in 2021 the ICWCT was held entirely online. The ICWCT 2020 was cancelled due to the Corona pandemic. Due to the ban on international travel and complex quarantine regulations, it was clear that a physical course in 2021 would also be impossible. The only option was for the course to go online, this marking a radical shift in the 37-year history of the course.

### 1. Course Objectives and Learning outcomes

#### ***Main objectives:***

- To give the course participants the theoretical and practical knowledge essential for diagnosing causes of deterioration and for selecting the most appropriate methods of conservation and restoration of wood.
- To extend the knowledge of the participants beyond their own professions for a broader understanding of different aspects and approaches to wood conservation.
- To bring people of various professions from different countries and cultures together for a mutual learning experience, drawing on different experiences, practices and approaches to wood conservation and use of wooden materials.

Although the course curriculum was much reduced this year due to the online format, the course objectives were still upheld and fulfilled as much as possible given the circumstances.

#### ***Learning Outcomes:***

By the end of the course, the participants will be able to

- Analyse how and why the material properties of wood determine its processing and use
- Diagnose the causes of deterioration of wooden structures and objects
- Prioritise the values and ethics associated with wooden structures and objects
- Evaluate conservation options for damaged wooden structures and objects within the context of a range of historical and cultural practices

*Each Unit has its own learning outcomes that align with these.*

## 2. Organisation

### 2.1. Organisers

- **Riksantikvaren** – responsible for overall course planning, administration, and implementation.
- **NTNU** – joint planning of the course and implementation. Responsible for the final examination and academic accreditation. Administering payments of the lecturers and book-keeping (NTNU Videre). Assistance from technical departments with practical advice.
- **ICCROM** – Advertises the course and receives and sorts the initial applications with recommended selection. Professional and practical contribution and support.

### 2.2. Funding

- Riksantikvaren finances the course.
- ICCROM contributes in-kind with advice regarding online teaching and support.
- The cost of NTNU staff time and administration has been shared between NTNU and Riksantikvaren. The Multimedia Centre at NTNU contributed in-kind with assistance in technical matters regarding online teaching, the web platform and filming.

### 2.3. Academic accreditation

NTNU - The Norwegian University of Science and Technology.

### 2.4. Course Direction

Anne Nyhamar, Senior Advisor at Riksantikvaren, was responsible for the overall course administration, implementation and planning together with Marie Louise Anker, Special Director of Cultural Heritage Management at Nidaros Cathedral Restoration Workshops (NDR) representing NTNU. Glenn Terje Løken, Senior Advisor at Riksantikvaren, contributed to some of the initial planning and the organisation of Unit 7, including a lecture.

Jostein Løvdal, Acting Head of Section, International Cooperation and World Heritage at Riksantikvaren, was kept informed on matters of significance throughout the planning and implementation of the course. Valarie Magar, Unit Manager, Programmes, and Gamini Wijesuriya, recently retired Project Manager at ICCROM, both assisted with advice and recommendations in the planning of the course. Gamini Wijesuriya was also responsible for the first Unit: Conservation Theory and Principles. Eir Grytli, Professor of Architecture and Jon Nordsteien, Associate Professor, Department of Architecture and Technology NTNU, were kept informed during the planning of the course. Both formed part of the Evaluation Panel during the examination together with Hanne Bjørk and Anne Cathrine Hagen from 'Møbelverkstedet' (The Furniture Workshop) in Oslo.

## 3. Going Online

The ICWCT 2018 took parts of the theoretical curriculum online for the first time with a separate preparatory distance-learning segment to the course. This was a big step for the ICWCT which had been almost unchanged in its

structure since 1984. The completely online ICWCT 2021 took the course organisers and lecturers into previously uncharted territory. Inger Dagrann Langseth, Professor in foreign language didactics, at the NTNU Multimedia Centre was helpful with initial guidance. Two NTNU students, Sergio Martinez and Sigmund Granaas, acted as technical assistants during the building of the course platform. As the course organisers became more familiar with the technical aspects of adding content to the course platform, the course organisers were able to do more and more ourselves. Andreas Hansen Schille, Senior Executive Officer at the Department of Teacher Education, was extremely helpful in assisting with the filming of the case study for the final exam. He also helped edit some of the videos used in the teaching.

As most of the lecturers had no previous experience with online teaching, a short online course was designed for the contributing lecturers on the same course platform. Shayne Rivers, contributing lecturer on the conservation of wooden objects, designed the course. Here the lecturers were taken through the course, step by step – experiencing in practice what they would be themselves be doing for the wood course.

It is important to stress that although the ICWCT 2021 was taught entirely online, it was not a MOOC (Massive Open Online Course) it consisted of blended learning methods, using a combination of pre-recorded and synchronous lectures, online chat discussions, live discussions, and regular Zoom meetings. The group was limited to 20 participants. Personal contact with all participants meant that it was very clear if someone was missing from the group. Group discussions and assignments also meant that the participation was expected from all students. A clear timetable was designed with regular meetings, all held on the same days of the week and at the same time to avoid confusion. Assignments were expected to be completed on time and according to the schedule.

## **4. Course Programme**

### **4.1. Inauguration**

The course was inaugurated on Monday 22<sup>nd</sup> March on Zoom. The course organisers - Anne Nyhamar and Marie Louise Anker welcomed the participants to the course. The Director General of the Directorate for Cultural Heritage Hanna Geiran also welcomed the group.

### **4.2. Course Curriculum**

The curriculum included seven distinct but interconnected units. They followed much the same order and most of the same theoretical content as the regular course. All Units were concluded with a student assignment to demonstrate understanding and implement new knowledge through practice.

- **Introduction Unit:** Welcome video and introduction to the course by the course Directors. Course overview. Description of the digital platforms and instructions for use. Online etiquette and expectations. Participant Profiles. General information including course timetables and schedules. List of all lecturers and resource people and their contact information.



- **Unit 1: Conservation theory and principles:** *Gamini Wijesuriya, ICCROM.*

The first Unit of the course included reflecting on current principles and approaches that underpin the conservation of wooden heritage. The session also touched on the evolving nature of the conservation discourse over the last 150 years and focused on emerging paradigms. The complexity confronted by practitioners when dealing with wooden heritage was discussed, all which was further elaborated in following units of the course. The students were able to re-assess the status of the conservation discourse by understanding the evolving principles, theories, and approaches and by recognising the diversity and context. They were able to improve their own approaches in developing a conservation plan by recognising the complex nature of wooden heritage and the need to focus on a wide variety of issues; diverse characteristics of wood, typologies e.g. from objects to buildings to villages/cities, diverse decay mechanisms and diverse treatments. (Contributing lectures by Marie Louise Anker NTNU and Terje Planke, Norsk Folkemuseum)

- **Unit 2: Wood properties:** *Marco Fioravanti, University of Firenze, Italy.*

This Unit formed an introduction to the structure and properties of wood in order to understand the relationship between material and object and conservation. The students got a basic understanding of the origin of damages in wooden artefacts and how wood science and technology as a necessary support for an effective preservation of wooden heritage. The properties of wood that are important in the conservation of historical wooden objects were covered, including the moisture relation, densities and mechanical properties of the different species. The Unit was divided into sub-sections: Macroscopical and microscopical structure of wood, the moisture relations in wood, elements of wood mechanics and wood aging. A supplementary section focused on the problem of wood identification in Cultural Heritage.

- **Unit 3: Environment and decay:** *Johan Mattsson, Mycoteam, Norway*

Unit 3 looked at the main reasons for biodeterioration of wood and how the environment influences the damage development. The students saw how all biological activity has a logical reason, and with a fundamental knowledge of the building biology, it is possible to understand the causes of the damages. This makes it possible to handle most of the damages in a simple way, with a minimum of negative influence on the cultural heritage and often without any use of biocides. The following topics were studied: Importance of microclimate, discoloration of untreated wood, wood-decaying fungi, wood-boring insects, wood-destroying insects, and various sampling methods.

- **Unit 4: Climatology:** *David Howell, West Dean College, UK.*

Unit 4 addressed the discipline of environmental preventive conservation in caring for indoor collections and historic materials. With an emphasis on the role of temperature, relative humidity, and light as agents of deterioration and how they are monitored and controlled, the students got an appreciation of the damage that can be caused by inappropriate environments. At the end of the Unit, they were able to measure and monitor temperature and relative humidity, how to interpret monitored data, and how to decide upon and implement control measures.

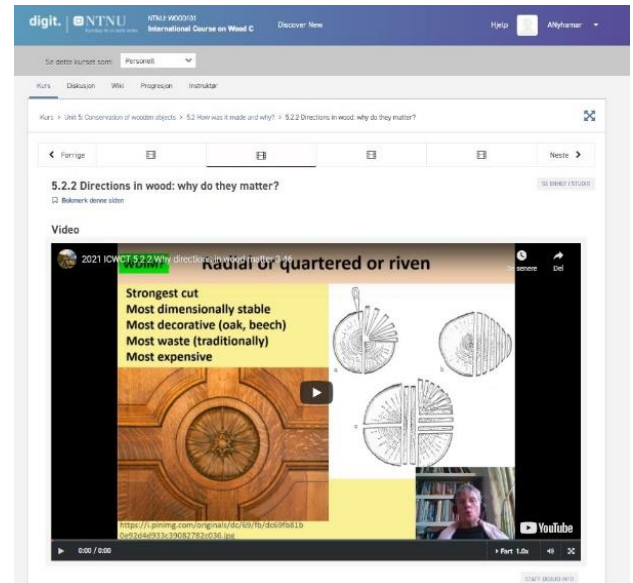
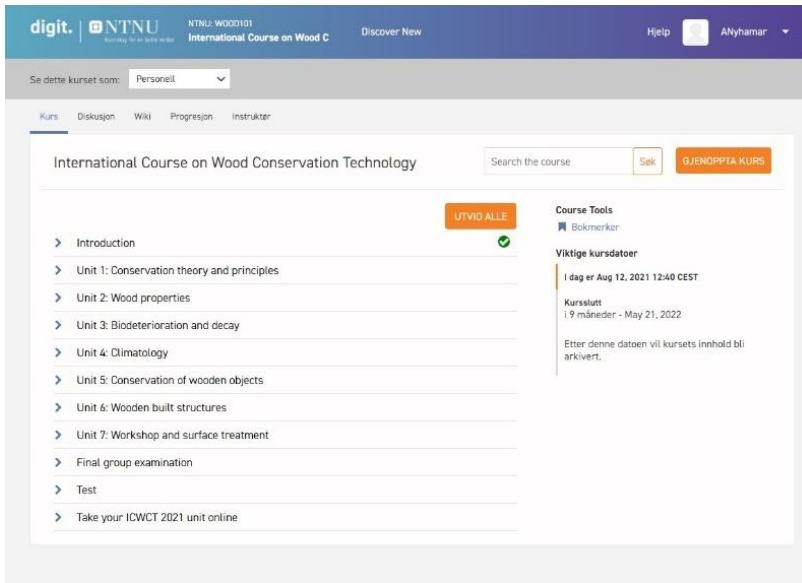
- **Unit 5: Conservation of wooden objects:** *Shayne Rivers, West Dean College, UK*  
This Unit looked at how to examine, interrogate and understand movable wooden objects. It gave an overview of properties of wood that affect the construction methods of movable objects, including structures and joints. At the end of the Unit, students were able to analyse how and why movable wooden objects are constructed and fall apart, prioritise agents of deterioration for movable wooden objects to support problem-solving, assess what matters and why (value) about movable wooden objects and evaluate cost-effective remedial conservation options for damaged movable wooden objects.
  
- **Unit 6: Wooden built structures:** *Gord Macdonald, Heritage Works, Canada.*  
Unit 6 looked at understanding historic wooden buildings and how to repair them. The students explored a variety of investigative tools and techniques used to assess the conditions of historic buildings, diagnose common decay mechanisms and evaluate the performance of historic repairs. The information gathered during this process was then used to prioritize new repairs and determine how they should be monitored. (Contributing lectures by Margarita Kisternaya, Kizhi, Russia and Sjur Mehlum, Multiconsult)
  
- **Unit 7: Building surface treatment and workshop:** *Per-Willy Færgestad, MiA, Norway.*  
The students studied the changes and developments in local building traditions through the study of the door. The unit looked at the different door components and discussed how the modern timber trade has changed local traditions. The consequences of this were reviewed, including the increased use of chemicals. (Contributing lectures by Master Painter Ole Andreas Klaveness (on paint and surface treatment) and Glenn Terje Løken (on material selection), Riksantikvaren)

## ***Appendix 2: Course Programme***

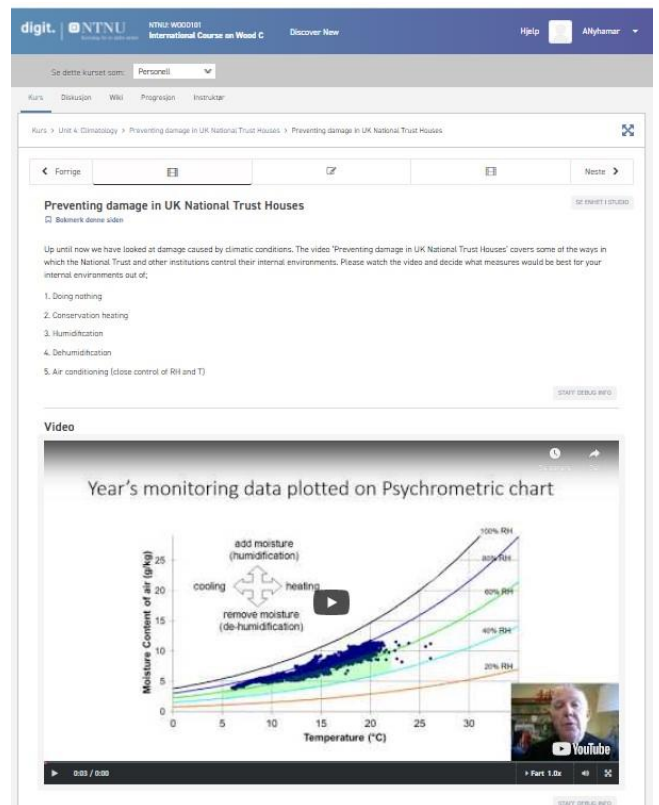
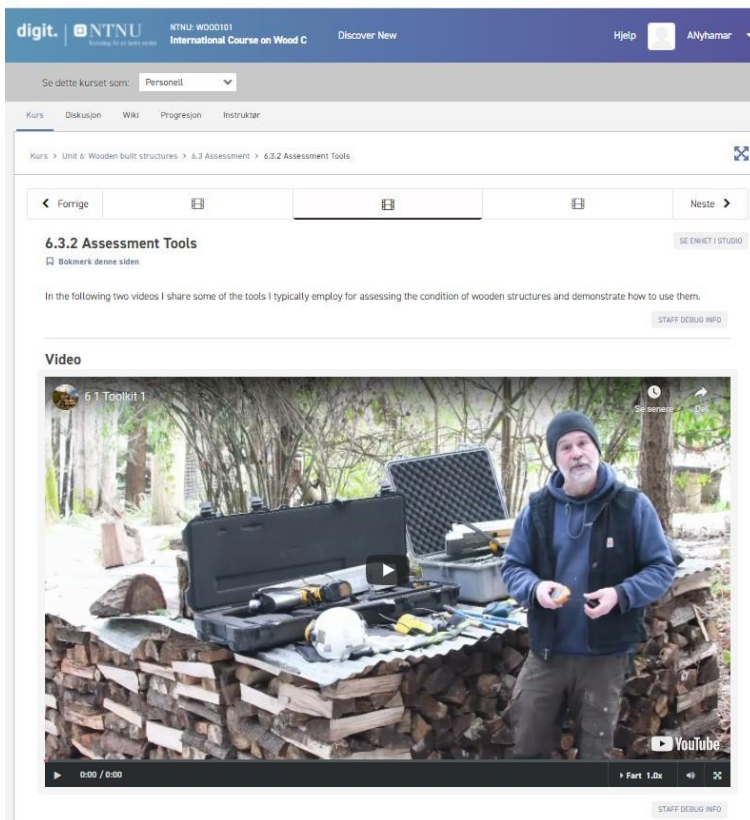
Most of the lecturers have contributed to the ICWCT previously. Two lecturers were completely new to the course. For most, it was the first time were teaching entirely online. The lecturers were asked to be responsible for their respective weeks on Ed-X, organising the on-line curriculum, recording their presentations, and preparing an assignment. In addition to preparing the tutorials, they gave a live presentation on the first day of the Unit and led a one-hour session at the end of their week. Some were also available at an additional (voluntary) Zoom meeting for questions and discussion. The lectures were also responsible for answering questions posted by the participants in the Chat forum on Ed-X. This meant an obligation to log on to the course platform at least once a day.

### ***4.3. Course content on Ed-X***

The different lecturers had great freedom in designing the different Units they were responsible for, though a close dialogue and regular contact was upheld in the weeks prior to the course. A special effort was made to link the different Units and relate them to other sections of the course, building on previous assignments and recent course content. The content consisted primarily of pre-recorded video lectures including PowerPoints, links to literature (PDFs/ web-links) quizzes, example images etc and concluded with a practical assignment to demonstrate understanding of the subject matter. Assignments were completed by the participants and uploaded to OneDrive. All students and lecturers had access to the uploaded assignments.



- Above left: Examples of pages from Ed-X, showing the main contents-page and Right: A page from Unit 5 on the Conservation of wooden objects with Shayne Rivers.
- Below left: From Unit 6 and the Conservation of wooden built structures with Gord Macdonald in a video about the assessments of tools.
- Below right: From David Howell's Unit on Climatology in Unit 4; plotting data on a psychrometric chart.



## 5. Exam

The ICWCT is concluded with a group examination credited by The Norwegian University of Science and Technology (NTNU). The exam is compulsory and normally gives 15 ECTS (European Commission grading system) if passed. This year, because of the reduced course time and curriculum, the successful completion of the examination gave 7,5 ECTS. In addition to the transcript of ECTS (grades) from NTNU, all participants are awarded a ICWCT course certificate issued by Riksantikvaren. This certificate is awarded independently to the exam results and given to all participants who have participated actively, submitted all the assignments, and completed the course.

A fundamental change was introduced to the exam format for the ICWCT 2018. Previous courses had concluded with a formal 3-hour written exam which was corrected and marked by NTNU. The written format meant native speakers had an unfair advantage; the correction of the papers often required extensive interpretation, and the continuous assessment of how well the student had performed during class was not considered in the grading. The revised format of the exam followed NTNU's recommendation and was also conducted in the ICWCT 2021 online course.

The participants were divided into five cross-disciplinary groups of 4 persons and each group assessed two case studies: a building and a piece of furniture. The case studies were set up as an assignment where the groups formed a team of experts. The purpose of the assignment was to discuss approaches and solutions in a broad perspective, implementing what they had learnt during the course.

The primary examination form was through an oral presentation. The groups were asked to summarize the results of the group discussions in short points. The group had to cooperate and decide how best to work together, and it was stressed that all participants in the group should actively participate and be able to identify their contributions. The groups were given two days to complete the examination assignment. The groups were then asked to present their conclusions to the course examiners (Eir Grytli, Professor of Architecture, and Jon Nordsteien, Associate Professor of the Faculty of Architecture and Design, Norwegian University of Science and Technology, NTNU, Trondheim) and Hanne Bjørk and Anne Cathrine Hagen, Directors of the 'Furniture Workshop' in Oslo. The groups had 10 minutes to present their reports and received 10 minutes of feedback from the course examiners. The groups were free to choose one person to represent the group or share this task.

The grading system for assessment: Passed / Not passed

Continuous assessment 50/100

Final exam presentation 50/100

All participants passed the ICWCT 2021 exam and were notified of this the same day. The official certification from NTNU was sent to the participants in August 2021.

The organisers assessment of the exam format and proceedings are to be found in the **General assessment of the course** in chapter 10. of this report.

## 6. Lecturers

Lecturers for the course are selected by the organisers. Feed-back and reviews from previous courses are also important in the choice of lecturers. The following lecturers were invited to contribute to the ICWCT this year (in order of appearance in the programme):

- **Gamini Wijesuriya**, recently retired from ICCROM represented ICCROM in the programme.
- **Terje Planke**, Senior Conservator in the Section for Building Preservation, *Norsk Folkemuseum*
- **Marie Louise Anker**, Director of Nidaros Cathedral Workshop. Representing NTNU.
- **Marco Fioravanti**, Associated Professor of Wood science and technology, University of Florence.
- **David Howell**, Lecturer, West Dean College, UK
- **Johan Mattsson**, Manager R&D in Mycoteam, Oslo
- **Shayne Rivers**, Senior lecturer, West Dean College, UK
- **Hanne Bjørk** and **Anne Cathrine Hagen**, Møbelverkstedet (The Furniture Workshop), Oslo
- **Gord Macdonald**, Master Carpenter and Buildings Conservator, Heritageworks, Canada
- **Margarita Kisternaya**, Kizhi Museum, Russia
- **Sjur Mehlum**, Multiconsult, Oslo
- **Per-Willy Fergestad**, Master Carpenter at Follo Museum, Museums of Akershus
- **Ole Andreas Klaveness**, Master Painter, Oslo
- **Glenn Terje Løken**, Senior Advisor, Riksantikvaren
- **Tove Elise Ihler**, Senior Advisor, Riksantikvaren

## 7. Participants

### 7.1. Announcement and response

The ICWCT 2020 course announcement was published on the ICCROM and Riksantikvaren websites in June 2019. ICCROM was the receiving address for the applications. By the closing date for applications 30th September 2019, 80 applications were registered, representing 38 different countries. This was a slight reduction in applications from previous years (In 2018, 110 application were received).

The final decision to cancel the ICWCT 2020 was made in March 2020 and participants as well as lecturers were notified. There was great uncertainty regarding this decision at the time, as no one could fully anticipate the extent, effects of, and restrictions imposed nationally as well as internationally due the pandemic. There were discussions if September 2020 could be an alternative possibility, but finally June 2021 was set as the new date. This was considered a conservative but safe decision. In November 2020 we realised that a physical course in 2021 would also pose difficulties, and a decision had to be made as to whether we should postpone yet again or offer an online version of the course.

In November 2020, and with the end of the pandemic with its travel restrictions nowhere in sight, the already selected participants were notified that the course would be held online in 2021. The already selected participants were automatically offered a place on the online course. The group was understandably disappointed at not meeting

in Oslo, and 5 participants withdrew their places on the course when the decision was made to go online. Offers then went out to participants on the waiting list, prioritising applicants who had similar professional backgrounds as the cancelled selection. The final participant accepted her place just two weeks before the start of the course.

### ***Appendix 1: Course Announcement***

#### ***7.2. Selection of participants***

The choice of participants aims at securing a relevant professional level and at creating a good group composition. The following main criteria were used for the selection of the participants:

- 1. Minimum 3 years relevant work experience**
- 2. Diversity in educational and professional backgrounds considering both academic and practical experience**
- 3. Geographical and cultural diversity**
- 4. Balanced gender representation**



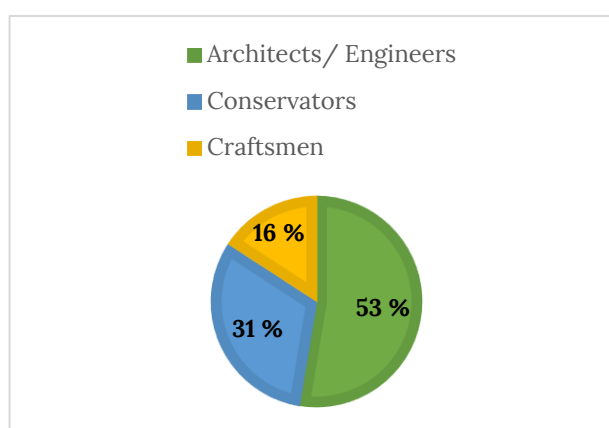
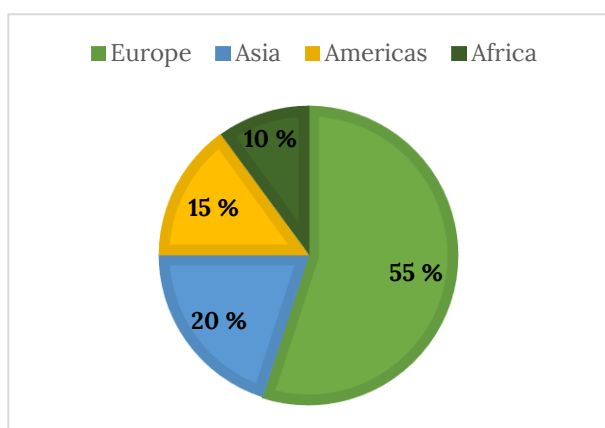
- The ICWCT 2021 map of the world.

The course organisers at Riksantikvaren and ICCROM made proposals separately and drew up a shortlist and a waiting list. The two parties conferred by email and phone and compared their selections. For Riksantikvaren it is always very useful to hear ICCROM's rationale behind their selection and beneficial to learn from their experience. Riksantikvaren informed all applicants concerning the results of their applications. The 20 successful candidates received a confirmation letter by post in addition to e-mail. As a final check before the selection was confirmed,

Riksantikvaren telephoned candidates where their native tongue was not English to check language skills.

- The final group of participants were from: Europe 11, Asia 4, Americas 3, and Africa 2.
- There were 11 female and 9 male participants
- 10 participants had background as architects or engineers and worked with buildings. 6 were object conservators, 3 were trained craftsmen.
- Most of the participants were employed by governmental entities, museums, or other public institutions in their home countries.

#### Geographical spread and background of the ICWCT 2021 participants



#### List of participants

Country	Name		Current position
Albania	Elena Mamani	F	Deputy Head/Program manager, Cultural Heritage without borders
Canada	Stacy Dyck	F	Conservation Architect, Heritage Conservation Western, Government of Canada, Public Services and Procurement
Canada	Corey Pool	M	Heritage Specialist, carpenter, Cumberland Heritage Village Museum
China	Renhao Liu	F	Conservator in Residence, The Palace Museum, Beijing
Colombia	Cesar Porras	M	Independent Conservator and Associate Professor, Extemado University of Colombia - Bogota Restaura, Independent Workshop
Denmark/ Greenland	Jeppe Lorenzen	M	Curator, listed buildings, Nunatta Katersugaaiviva Allagaateqarfialu, Greenland National Museum & Archives
Ethiopia	Abel Assefa Girmay	M	Architectural Conservator, Authority for Research and Conservation of Cultural Heritage

India/ Australia	Divya Nandini	F	<i>Junior Outstanding Fellow in the Field of Culture, For Cultural resource and Training</i>
India	Kavita Jain	F	<i>Principal Architect, The Forms, Jaipur</i>
Norway	Rasmus Skrydstrup	M	<i>Carpenter and Conservator. Nidaros Cathedral Conservation Workshop, Trondheim.</i>
Norway	Lars Lunde	M	<i>Journeyman carpenter, Norwegian Folk Museum, Oslo</i>
Nigeria	Christiana Elurihu Alagbe	F	<i>Conservator, National Museum Unity, Ibadan</i>
Phillippines	Benjamin Paulin	M	<i>Materials Engineer, National Historical Commission of The Philippines</i>
Poland	Dabrowka Lipska	F	<i>Senior Specialist, National Heritage Board of Poland</i>
Romania	Vladimir Obradovici	M	<i>Associate Teacher, Politecnica Timisara University, Faculty of Architecture and Urbanism</i>
Slovenia	Erica Sartori	F	<i>Assistant Conservator-restorer at the National Gallery of Slovenia, Ljubljana</i>
Spain	Marieta Nunez Garcia	F	<i>Conservation Architectural Engineer, Proskene Conservtion &amp; Cultural Heritage</i>
Sweden	Johan Jonsson	M	<i>Department of Conservation, University of Gothenburg</i>
UK	Eliza Doherty	F	<i>Frame Conservator, Guildhall Art Gallery, London</i>
UK	Michelle Martin	F	<i>Project Conservation Architect, Richard Parr &amp; Associates</i>

### **7.3. Course costs and financial support**

The participants do not pay a course fee. As the ICWCT 2021 was all online, the participants did not incur the costs of travel to Norway which is normally their own responsibility. Food and travel expenses while in Norway is also usually the responsibility of the individual participant.

The 2021 course organisers saved costs on student accommodation, travel scholarships as well as travel expenses and hotel accommodation for the lecturers. The expenses for the excursion around Norway were also saved. However, the cost of developing the online course, developing new course material, recording the lectures and increased time spent on course planning and content development, meant that although well below the normal budget, considerable funds were spent interpreting and adjusting the course material to fit an online format.



#### 7.4. The role of the participant

The success of the course has always depended on the participants playing an active role during the programme. This was also very important during the online version of the course. Although some reticence to speak in public was apparent initially within the group, everyone soon became more confident speaking out on Zoom and posting questions in the chat and Discussion Forum on Ed-X. Dividing the group into smaller units for discussion and group-work also helped break the ice and create a group feeling. This was welcomed by the participants.

The mutual exchange of experience and ideas between the participants outside the classroom is always regarded as an important contribution to the quality of the course, and the practical framework aims at strengthening social and professional networking. This was harder to achieve with the online format as the informal areas for contact were lacking. Lively discussions did occur in the different platforms though, and after completing the course, the participants have established a WhatsApp group where they post questions relating to their work and share articles and issues of relevance. This shows that the course has achieved its aim of establishing a lasting professional network.



Use of tools / Toolmarks / Nails / Hinges:

- Unfortunately, the exterior surfaces of all the doors are very degraded by ultraviolet radiation. The interior surface of the old door boards seem finished with the plain. The boards of the new doors seem to be processed / cut industrial;
- The difference in period between the old and the new door can also be seen through the nails used (handmade / industrial) as well as for the handmade / industrial hinges.

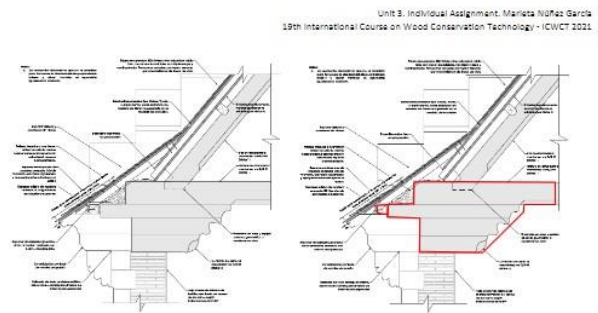


Figure 4. Construction system at the support of the trusses, and areas where typically extensive decay was observed: wooden corbel sill and tie beams, including the mortise around the tenon.



Figure 5. Typical condition in which the timber ties were found when inspected from the exterior side of the roof. In these images, not all decayed wood had yet been removed from the elements.

- *Examples from some of the many excellent student assignments where local conservation issues in the participant's home countries were shared. Left: From Vladimir Obradović's assignment for Unit 7, looking at toolmarks on an old door. Right: From Marieta Núñez García's assignment in Unit 3, where students were asked to describe an example of something they have seen or worked on and clarify what were the critical conditions that caused biodeterioration and what had to be done to handle the problem.*

## 8. Course evaluation

The course always has both a written and an oral evaluation. The results of the evaluation are an important tool for the improvement of the programme for future courses. For the 2021 online course, there was also an evaluation after every Unit. The oral evaluation was held on the last day on Zoom, where 30 minutes was reserved for a discussion about the course and general feedback. A separate (anonymous) written evaluation form was also sent to all the participants after the course. For this written evaluation, 19 out of 20 participants replied.

Following are the main issues raised and discussed during the oral evaluation meeting on the last day of the course. All points will be examined carefully, and efforts will be made to rectify the issues raised before the next course – if it is decided to host another online course. Some issues are also raised and discussed in the written evaluation forms.

### **Oral evaluation participants: Main points discussed:**

- **Workload:** Most students spent far more time doing the course work and assignments than they initially had planned for. The course organisers underestimated the time and intensity of the workload. Future courses should allow for much more time, especially since most of the participants were in full-time employment during the course period. The organisers are acutely aware of this fact and will carefully consider the balance length/ curriculum when planning a next course.
- **Feedback:** More and better feedback on assignments was missed by the participants. This has been noted by the organisers and will be rectified for following courses.
- **Participant presentations:** Due to time-constraints, presentations from the participants and their work were not included in the online course. This was missed and will be re-introduced for the next course.
- **Exam:** The final exam allowed for too little time to prepare the report and presentation. It was rushed and stressful and did not allow enough time for questions and discussion. The organisers are aware of this and will re-think the whole examination process for the next course.
- **Expectations:** Several participants voiced their appreciation and thanked the organisers for of the course. The experience had exceeded their expectations and they were happy that they had had the opportunity to participate. However, it was agreed – by both participants and organisers – that the online course will never be able to replace a physical course. The experience of being together, the practical workshops and site visits are what makes the course unique. The participants (and organisers) still hope that they will be able to come to Norway to complete the course when restrictions of the pandemic are over.

### **Written evaluation participants:**

The link to the written evaluation forms were sent to the participants immediately after the completion of the course. We used the questionnaire software *Questback*. The responses were anonymous. 19 out of 20 participants responded to the questionnaire.

The course organisers were extremely satisfied with the results of the written evaluation. The most important questions gave very satisfactory answers. Other comments were all constructive and will help the organisers make necessary changes next time:

- Overall, were you happy with the lecturers on the course? *Result: 95% Very happy*
- Will what you have learnt on the course be useful for your work? *Result 89% Very*
- Do you feel taking the online ICWCT was time well-spent? *Result 95% Yes, absolutely*
- How likely is it that you would recommend the online ICWCT to colleagues in your home country? *Result: 89% Very likely*

**Oral evaluation lecturers:** A separate evaluation meeting on Zoom was held with the lecturers on the course. In general, all enjoyed being a part of the online version of the course and all report back that they learnt a lot from the experience. Other points raised were:

- Getting to know each other through the regular planning-meetings prior to the course was a very positive experience and helped to connect the various Units. For the first time, a sense of ownership to the course and group feeling was achieved also with the lecturers, not just the participants on the course.
- It took far more time than initially anticipated to prepare the curriculum for an online course. Underestimation of hours spent.
- The link between the curriculum of the various Units can be improved and strengthened. A suggestion was to prepare a conceptual map of the course and have a workshop to improve the links and reduce overlaps.
- The Discussion Forum in Ed-X was hard to follow – should be used more actively in the future.
- Extra voluntary Zoom sessions were good for open discussions

### **8.1. Conclusion of course evaluations**

The organisers were very satisfied with both the oral and written evaluations of the ICWCT 2021, despite the initial misgivings regarding an online course and the disappointment of not coming to Norway. In the end, the participants were positive and expressed satisfaction with the overall course experience. The course organisers have received many letters of thanks since the course and are grateful to the participants for all the positive and constructive feedback, these are much appreciated and will help the organisers in the future.

### **Appendix 3: Results of the written course evaluation**

*(See the full list of all questions, answers, and comments)*

## **9. General assessment of the course by the organisers**

### **9.1. Going online**

The course organisers had no experience of blended online learning, and discussions with both ICCROM and the Multimedia Department at NTNU were extremely helpful when planning the course. Online learning is not just about recording a lecture and uploading it to a website. The actual way of learning is different, and bite-size information as well as structure, interaction and activity are important. All this had to be learnt and understood. In this initial phase, Shayne Rivers of West-Dean College was also extremely helpful, designing a short online course for the lecturers to help them understand the possibilities of online learning on the same platform – Ed-X that would be used for the ICWCT.

As previously mentioned in Chapter 3, an online format on the NTNU platform *Blackboard* had already been tested in 2018 for the theoretical part of the course. This was more a file-sharing platform and not interactive in any sense. Going completely online was another matter, and careful consideration was made as to whether it would at all be possible to take such a practical course away from a physical reality.

It was decided that much of the content would not translate to an online medium, but that the theoretical part of the curriculum, combined with practical exercises done in the participants' home environments would still be achievable. The reduced curriculum would affect the exam and credits obtained during the course from 15 to 7,5 ECTS but would still offer the participants a valuable learning experience.

### **9.2. Pre-course information and assignments**

The participants were also asked to complete several preparatory tasks before the start of the course:

1. Complete the online **FutureLearn** course Preserving Norwegian Stave Churches which was made by Course Director Anne Nyhamar and Sjur Mehlum (ICWCT Course Director 2012 – 2018)
2. Read Conservation of Historic Timber Structures – an ecological approach, by Knut Einar Larsen and Nils Marstein – the founders of the ICWCT. The book and its approach form the foundation of the ICWCT.
3. The tree as a symbol: The participants were asked to make a short presentation of the tree as a symbol in their cultural context. They were free to make their presentation artistic, scientific, or scholarly.
4. The participants were asked to add their name, photo, and a bit about themselves to Padlet – an online map of the world.

### **9.3. Digital platforms**

Overall, we found that Ed-X worked extremely well for both students, lecturers, and organisers. Uploading the teaching material was initially a challenge, and we were dependant on help from the NTNU Multimedia department. A student was hired to help upload the teaching material. This technical help was essential for completing the Ed-X course platform on time. As the course progressed, the course organisers were able to do more of the technical uploading themselves. The various Units were opened successively one week ahead of time. This allowed for students to prepare ahead, but at the same time keep the group in the same place in the course schedule. A weakness with Ed-X is that students could not upload documents. This made it necessary to have an additional shared folder on OneDrive for uploading assignments. This must be reviewed for following courses and the number of different platforms should be kept to a minimum.

The Chat forum on Ed-X was not intuitive and several participants and lecturers struggled initially to understand access and potential. Shayne Rivers (Unit 5) was the only lecturer who fully explored the potential of using the Chat forum for communicating with the group during her Unit. A better effort should be made by the organisers to inform and teach the students on the technical aspects of the different platforms at the beginning of an online course. This has also been mentioned by some students in the evaluation.

A major challenge with the online course was the issue of international time-zones. Finding a time where all participants could attend the synchronous time-zones was not easy, and the organisers were extremely conscious of

restricting the meetings to the agreed time of one hour. This proved to be a challenge, and many of the initial meetings felt rushed. We solved this by extending the meeting time for those who were able to stay and keeping any over-time on a voluntary basis.

#### 9.4. The Course Directors

The ICWCT Course Team consisted of **Anne Nyhamar**, Senior Advisor in the Section for International Cooperation at Riksantikvaren, and World Heritage, and **Marie Louise Anker**, NDR, in this case representing NTNU. They were both responsible for the general planning, administration, and academic content of the course, though Anne took responsibility for all e-mail contact with the participants and lecturers, ICCROM, technical staff and responsibility for hosting and chairing most of the Zoom meetings. Marie took responsibility for the final examination and chaired the oral examination. She also gave a lecture in Unit 1. This was Anne's 6<sup>th</sup> ICWCT and Marie's 1<sup>st</sup>. Glenn Terje Løken, senior Advisor at Riksantikvaren assisted in initial planning meetings and with Unit 7.



- *Course Directors Anne Nyhamar and Marie Louise Anker on Zoom. Although they had previously not worked together, a good and friendly cooperation was achieved!*

#### 9.5. Participants

The composition of the participant group varies from year to year, depending on the applicants. This year as often before, two main groups dominated: architects/ engineers and conservators. Special care was shown in the selection procedure to make a balanced group. Three participants were qualified carpenters which is important for the composition and variety of the group. The course organisers have always tried to include a wide spectrum of backgrounds and qualifications in the final group selection. However, while striving for the best possible participants, have learnt that over-qualification is also a challenge. In selecting the participants for the 2021 course, as in previous years, the organisers tried to reduce the number of specialists and PhDs, bringing the participant profile back to the intended “mid-career” professional level.

In terms of group dynamics, ICWCT 2021 worked extremely well, and we are delighted to see that many are

maintaining contact with each other after the course, establishing a group and consulting with each other in a professional capacity. The group impressed us with their dedication and patience, managing the extra workload without complaint, and throwing themselves wholeheartedly into the online experience. We sincerely hope that we will be able to invite the 2021 group to Oslo at a later date, so they can complete the practical workshops and excursion in Norway.

### **9.6. Lecturers**

The academic programme aims at covering a variety of topics within the framework conservation of wooden heritage. The program is intended to reflect a multidisciplinary and international approach, and at the same time, update and refresh skills and knowledge on different topics. The question of the composition of the curriculum necessarily relates to the wide range of topics within the field of wood conservation; selecting the issues and lecturers is always a challenge. This was especially a challenge with the online course as the number of hours teaching was reduced.

Being a lecturer in a cross-disciplinary course is especially challenging as the level of knowledge of the students varies enormously. Ideally, the lecturer should introduce a certain topic for those unfamiliar to the subject, and at the same time give new information to participants who are themselves often experts within the same field. The rapid developments within the various subjects requires lecturers of an extremely high standard to be a success on a course such as the ICWCT on a high international level. A broad variety of nationalities is also important when recruiting lecturers, as is considering the international aspect when planning the course content. An ambition for future courses repeated in previous reports, is to include an African and/ or South American lecturer.

The curriculum for the online 2021 course was reduced given the restricted time limit and the very wide scope of subjects within the field. However, the evaluations show that the majority of the participants were happy with the academic level of the course, the results showing that 79% thought it was at the right level. The evaluation also shows that the 89% thought the curriculum was well balanced between objects and buildings – always a contentious issue in every group.

All lecturers on the ICWCT 2021 course received extremely positive feedback. 95% responded that they were very happy with the lecturers on the course. The fact that the lecturers this year were more involved in the course planning and had more insight into the content of the other units can be seen as one of the great successes from the online course. The organisers are extremely grateful to all the lecturers involved for all the time and dedication spent in the planning of the 2021 course.

### **9.7. Exam**

The format of the exam is described in **Section 5** of this report.

The previous success of the practical exam was attempted replicated in the online course, but with mixed results. Although the groups responded well to the actual exam questions, the written evaluation from the participants shows that the time-difference within the groups made working together under such a tight schedule challenging. It also meant that the workload wasn't necessarily shared equally. Frustration was also experienced by the participants regarding the limitation of time to present their work.

The organisers understand that they will have to revisit the exam process thoroughly should an online course be conducted again. Time limitation due to the different time-zones of the participants has been mentioned as a challenge elsewhere in this report. The problem of limited time available was made even clearer during the presentations on the final day where all the groups had to be treated equally. The question on whether a final exam is necessary should be reviewed, or whether continuous assessment is acceptable to the University.

## **10. Conclusion and recommendations**

### ***10.1. Background and benefits***

The International Course on Wood Conservation Technology (ICWCT) was started in 1984 as a joint project between UNESCO, ICCROM, Riksantikvaren, ICOMOS, and NTNU. The curriculum and organisation of the course are still based on ICCROM's original recommendations. A total of 370 participants from over 100 different countries have attended the 19 courses that have been organised to date.

After ICCROM took over the responsibility to announce the course on its web site, there was a marked increase in applications. In recent years, the numbers have stabilised. There were 98 applications in 2016 and 110 in 2018. The number of applicants for the 2020 course went down slightly to 80 applications, representing 38 different countries. The still high number of applications indicates that the course is considered relevant among professionals internationally.

Course evaluations show that ICWCT should be continued as an international course, and that it should not be replaced by regional courses. Japan (ACCU-Nara) course in conservation of timber structures focuses on Asian participants, but ICWCT still has many applicants from that region, and some take both the courses. The more recent addition to ICCROM's wood course portfolio is held in Kizhi in Russia. The course organisers hope that the three ICCROM wood courses can continue to cooperate even more closely in the future; for example, continuing the exchange of lecturers as well as organisational experience.

It is always important to continuously assess the need and the future of the ICWCT. The course demands a considerable amount of planning-time for the organisers and for the institutions involved. The cost-benefit relationship should always be considered when deciding if the course should be continued. In this aspect, the feedback from the participants is our most reliable source of information. This year's high score in the evaluation results leave no doubt; the course is greatly appreciated and valued, and a clear majority say they have benefitted from the tuition and will recommend the course to colleagues in their home countries. A repeat evaluation, for example 5 or 10 years after participation, questioning the more long-term effects and benefits of the course would be helpful.

Several measures have been suggested over the years to reach more people with the existing programme. Riksantikvaren has addressed this issue seriously and completed a project in 2018 with the Multimedia Centre at NTNU to develop a MOOC (Massive Open On-line Course) on the conservation of wooden built heritage, using the restoration of the Norwegian Stave Churches as an example. It is located on the [FutureLearn](#) platform with 3 076 participants currently enrolled. This course has been used as part of the preparatory work to the ICWCT.

This year's online ICWCT has shown that online learning – and more specifically, blended online learning with regular synchronous meetings and a limited group – can work well. The participants were motivated, dedicated and gave their utmost, even when the workload surpassed what was expected.

### **10.2. Cooperation with NTNU and ICCROM**

From the start, ICWCT was developed in collaboration between Riksantikvaren and NTNU, enabling the course to be a recognized part of an academic system. Offering an academic accreditation adds considerable status and credibility to the programme and Riksantikvaren appreciates and values the cooperation with the University. Senior Advisor Sjur Mehlum has not been replaced in the Riksantikvaren ICWCT-Team since leaving his position in 2018. This means that NTNU's representative (Marie Louise Anker in 2021) has taken a more active role in the planning and administration compared to NTNU's involvement in recent years. The roles and responsibilities of the two institutions need to be clarified and outlined and an Agreement is being drawn up.

The collaboration between the local organisers of ICWCT and ICCROM is regulated through the Memorandum of Understanding (approved 2001), which defines the respective roles and responsibilities between the parties involved. ICCROM's active role is important for the profile of the ICWCT, and the increased involvement from ICCROM since 2008 has proved to be very beneficial to the course. A recommendation would be to review the MoU and to sign a renewed and updated contract between the three organisations involved in the ICWCT.

### **10.3. Looking ahead**

The changed format to this year's ICWCT was a success despite the difficult circumstances. We anticipate that the restrictions of the pandemic will be with us for some time to come and the chances that there will be a second completely online ICWCT is probable. The organisers will continue to improve the online version of the course and learn from the experience of 2021. There is no doubt however, with both the organisers, lecturers, and participants alike, that going completely online has its limitations, and that a return to meeting in Oslo with workshops, hands-on exercises and direct interaction must be a priority as soon as international travel is possible again.

The organisers still regard the course to be useful and important within international, professional wood conservation training. Future courses will adapt to circumstance and continue to develop, offering new opportunities to improve. However, the success of the physical course model should not be lost and the essence of the ICWCT should remain in the future.

*Anne Nyhamar*

*(and approved by Marie Louise Anker)*

*Oslo, September 7th, 2021*





**11. APPENDICES**

***Appendix 1: Course Announcement***

***Appendix 2: Course programme***

***Appendix 3: Results of the written course evaluation  
Comments from participants.***

### **Appendix 1: Course Announcement 2020**

No new course announcement was released for 2021 as participants selected for 2020 were automatically offered a place. The course announcement 2020 was for the regular course in Oslo and not for the online course.



#### THE 19<sup>th</sup> INTERNATIONAL COURSE ON WOOD CONSERVATION TECHNOLOGY - ICWCT 2020

A course on the conservation of cultural heritage made of wood

#### **The course is divided in two main parts:**

1. **On-line distance learning:** 14 April – 26 May 2020
2. **Workshop in Oslo:** 2 – 26 June 2020

#### **Workshop location:**

Oslo, **Norway** (premises of Riksantikvaren – The Directorate for Cultural Heritage)

#### **Partners**

**ICCROM** (International Centre for the Study of the Preservation and Restoration of Cultural Property)

**Riksantikvaren** - The Directorate for Cultural Heritage, Norway

**NTNU** - Norwegian University of Science and Technology

#### **Background and Content**

The ICWCT was initiated as a response to a recommendation by UNESCO and has been organized in Norway every second year since 1984. It is directed towards professionals who have been working for some years within the field of wood conservation. The ICWCT covers a wide range of interdisciplinary topics relating to both buildings and objects made of wood. Theoretical and practical aspects of wood conservation are given equal consideration. Relevant cultural heritage sites constructed in wood will be visited during the course.

#### **Aim and objectives**

The aim of the course is to promote cultural understanding and research in the field of wood conservation, and to be a valuable resource for the work of the individual participants in their respective countries. The main objectives of the course are:

- to establish a basic knowledge of wood, and the processing and use of wood, both structurally and decoratively;
- to give participants the theoretical and practical knowledge essential for diagnosing the causes of deterioration, and for selecting the most appropriate methods of conservation and restoration of wood;
- to extend the knowledge of participants beyond their own professions for a broader understanding of different aspects and approaches to wood conservation;
- to bring people with various professions from different countries and cultures together for a mutual learning experience, drawing on different experiences, practices and approaches to wood conservation and use of wooden materials.

### **The course programme**

The ICWCT 2020 course programme will be divided into two main components:

- I. A 6-week compulsory on-line introductory section where participants will have access to a digital platform from their respective home countries. Allow for at least 5 hours per week of interactive preparatory study with various exercises and papers to be submitted.
- II. A 4-week full-time course in Oslo. The course includes lectures, practical conservation exercises, field studies, museum visits and excursions.

The curriculum includes distinct but interconnected units covering aspects of: properties of wood; factors affecting the decay of wood; principles of conservation, preventive conservation; paint and surface treatment, conservation of wooden objects and furniture as well as the conservation of wooden buildings and structures. The course includes an onsite practical workshop with an introduction to the use of traditional tools and a 4-day study tour to selected wooden heritage sites in Norway.

### **Lecturers**

Lecturers from Norway and other countries will be contributing to the course. All are recognized experts within the field of conservation and with various backgrounds and professional experience.

### **Exam**

The course concludes with a practical exam, giving 15 (ECT) university credits if passed. A full-time presence and active participation during both the on-line component and the course period in Oslo are required to be allowed to participate in the exam and to obtain the course certificate.

### **Fees**

Course participation is free of charge for the selected participants.

### **Travel, Accommodation and Living Expenses**

- Participants will be responsible for their own round-trip travel costs to Oslo, Norway.
- Student accommodation for the period of the course in Oslo will be provided free of charge by the course organizers.

- To cover living expenses, food and transport within Oslo during the course, participants should plan for a minimum allowance of approx. NOK5000 (about 600 USD) for the 4 weeks.

Depending on availability of funding, and a stringent application process proving financial need, a limited number of partial scholarships may be available in special circumstances.

### **Participants**

Applicants should be mid-career professionals with a minimum of three years' work experience in wood conservation. It is of great importance for the success of the course that the participants have relevant experience to contribute with, and benefit from, the mutual exchange of ideas.

*The number of participants is limited to 20.*

### **Language**

The working language of the course is English. A good knowledge of English is essential for the benefit of the individual participant and for the course as a whole and must therefore be documented in the application. A certificate of language is required for non-native speakers.

### **Applications**

Please fill the ICCROM application form (obtainable from ICCROM web site) and send it together with the documents listed below to the following e-mail: [wood2020@iccrom.org](mailto:wood2020@iccrom.org).

- i. A full professional curriculum vitae (in English)
- ii. One page report describing a conservation project related to wood for which you are or have been actively involved and can be shared with the other participants.

For further information regarding the course, please contact: Ms. Anne Nyhamar (The Directorate for Cultural Heritage), e-mail: [anne.nyhamar@ra.no](mailto:anne.nyhamar@ra.no)

### **Application deadline**

Applications should reach ICCROM by **30 September 2019** to ensure inclusion in our selection process.

All applicants will be notified before 1<sup>st</sup> December 2019.

**Please note that the implementation of the course is subject to the approval of the ICCROM Programme and Budget 2019-2020 by the General Assembly of ICCROM to be held in November 2019.**

***E-mail to participants sent 09.11.2020***

Dear all,

I hope this finds you all safe and well. When we postponed the ICWCT 2020 for a whole year, we assumed we were being extremely cautious – never imagining that the Corona pandemic would affect our lives for so long. As we face the prospect of continued restrictions well into 2021, we are determined to do the best we can in the circumstances. Like schools, colleges, and universities all over the world, we aim to offer an alternative wood course in 2021 by going online.

The planned course will go over seven weeks, from **29. March – 14. May 2021**. The teaching will be based on online lectures, webinars and discussions, as well as practical assignments and group-work which will be shared with the rest of the class. The class will remain the same size as the traditional ICWCT (20 participants) to allow for active participation and direct feedback from fellow students and lecturers.

We aim to structure the online course much as the traditional ICWCT, dividing it into weekly Units covering aspects of: properties of wood, factors affecting the decay of wood, principles of conservation, preventive conservation, paint and surface treatment, conservation of wooden objects and furniture as well as the conservation of wooden buildings and structures. Each week will demand approx. 5-7 hours of study, which should mean that it is possible to work full time while taking the course. However, we would like to make clear, that because of time-differences, any 'live' online meetings might occasionally occur at set times during the day, demanding a certain flexibility in your working hours. There will be a final online examination which will grant approx. 7 ECT University credits (to be determined) from the Norwegian University of Science and Technology. A full-time presence and active participation during the online course is required to be allowed to participate in the exam and to obtain the course certificate.

Although a very different experience from the regular ICWCT, we believe that this online course will still manage to offer you a thorough understanding of wood as a material and encourage cross-disciplinary interaction, learning and networking within the group. You will be followed up closely by the lecturers and have the opportunity to share your own work and work-related challenges with other professionals from all over the world.

As selected participants of the ICWCT, you are offered a place on this online course in place of the ICWCT 2020. If your circumstances have changed, or you no longer wish to participate in the course, please let me know as soon as possible. **Please confirm your acceptance no later than end of December 2020.**

Wishing you all the very best for now; stay safe and healthy - and hoping that we will meet online in 2021!

**Anne Nyhamar**  
Senior Advisor  
Section for International Cooperation and World Heritage

**Riksantikvaren - The Norwegian Directorate for Cultural Heritage**  
Phone (+47) 98 22 87 21  
[www.riksantikvaren.no](http://www.riksantikvaren.no)



## Appendix 2: Course Programme

### ICWCT 2021 Online Programme 22 March – 21 May

Weekly timetable: Tuesday to Monday

**Please note the time:** 14:00 CET is the same for all our Zoom meetings!

#### Join Zoom Meeting:

<https://NTNU.zoom.us/j/98742275617?pwd=R2NoNHlJOFhTNlc3TVlEV0p4K2JTQT09>

Meeting ID: 987 4227 5617

Passcode: 893572

Date	Introduction
<b>22 March</b> 14:00-15:00 CET	Welcome and introduction to the course and to each other on Zoom <i>Pre-course assignment and suggested preparatory reading, links to self-study on FutureLearn</i> <ol style="list-style-type: none"> <li>Participant biographies - short presentations about yourselves and your current work on Padlet to share.</li> <li>The tree as a symbol in religion and culture, describe it in your context.</li> </ol> ICWCT Organising Team: Anne Nyhamar and Glenn Terje Løken (The Directorate for Cultural Heritage/ Riksantikvaren) Marie Louise Anker (NTNU)  Introduction to Unit 1: Conservation theory and principles with Dr. Gamini Wijesuriya (ICCROM)
<b>23 – 26 March</b>	<b>UNIT 1: Conservation theory and principles</b>
EdX course platform  26 March: 14:00 CET 5 April: 14:00 CET	<ul style="list-style-type: none"> <li>Reflect on current principles/approaches that underpin the conservation of wooden heritage. The session will also look at the evolving nature of conservation principles/ approaches over the last 150 years and the latest paradigms. By Dr. Gamini Wijesuriya (ICCROM)</li> <li>The Nara Document and the ICOMOS Charter on wooden constructions. By Dr. Marie Louise Anker</li> <li>Virtual walk around the Folk Museum in Oslo, focusing on intangible heritage and the implications of the ratification of the convention for the museum and the conservation staff. By Dr. Terje Planke</li> </ul> <i>Zoom meeting/ concluding discussion with Unit lecturers.</i> <i>Zoom meeting. Presentation and discussions of student assignments.</i>
<b>6 – 12 April</b>	<b>UNIT 2: Wood properties</b>
6 April: 14:00 CET	<i>Zoom introduction to the Unit with Dr. Marco Fioravanti (University of Florence)</i>

EdX course platform  12 April: 14:00 CET	<p>Elements of science and technology are discussed to understand the structure, physical and mechanical behaviour of wood. Specific subjects, such as wood identification and wood science applied to preservation of wooden cultural heritage will be covered. Emphasis will be given to the relationship between conservation environments and potential risks of wood damage or degradation.</p> <p><i>Zoom meeting. Presentation and discussions of student assignments.</i></p>
<b>13 – 19 April</b>	<b>UNIT 3: Environment and decay</b>
13 April: 14:00 CET  EdX course platform  16 April: 14:00 CET 19 April: 14:00 CET	<p>Zoom introduction to the Unit with Dr. Johan Mattsson (Mycoteam)</p> <p>By understanding the individual requirements for the activity of fungi and insects, it is possible to handle any damages that are caused by biodeterioration with limited effort and with maximum effect. This Unit will give a basic knowledge of why and how wood-decaying fungi and wood-boring/wood-destroying insects cause damages in wood and how such damages can be examined and handled.</p> <p>Voluntary open session on Zoom for an informal round of Q&amp;A</p> <p><i>Zoom meeting. Presentation and discussions of student assignments.</i></p>
<b>20 -26 April</b>	<b>UNIT 4: Climatology</b>
20 April: 14:00 CET  EdX course platform  26 April: 14:00 CET	<p>Zoom introduction to the Unit with David Howell (West Dean College, UK)</p> <p>Addressing the discipline of environmental preventive conservation in caring for indoor environments, collections, and historic materials. The role of temperature, relative humidity, and light as agents of deterioration will be discussed and how they are monitored and controlled.</p> <p><i>Zoom meeting. Presentation and discussions of student assignments.</i></p>
<b>27 April – 3 May</b>	<b>UNIT 5: Conservation of wooden objects</b>
27 April: 14:00 CET  EdX course platform  3 May: 14:00 CET	<p>Zoom introduction to the Unit with Shayne Rivers (West Dean College, UK)</p> <p>We look at how to examine, interrogate and understand movable wooden objects, overview of properties of wood that affect the construction methods of movable objects, including structures and joints, and how and why structural failure occurs.</p> <p><i>Zoom meeting. Presentation and discussions of student assignments.</i></p>
<b>4 – 10 May</b>	<b>UNIT 6: Wooden built structures</b>
4 May: 14:00 CET  EdX course platform	<p>Zoom introduction to the Unit with Gord MacDonald, Heritageworks, Canada.</p> <p>This session is about understanding historic wooden buildings and how to repair them. The success or failure of our repairs depends upon how well we</p>



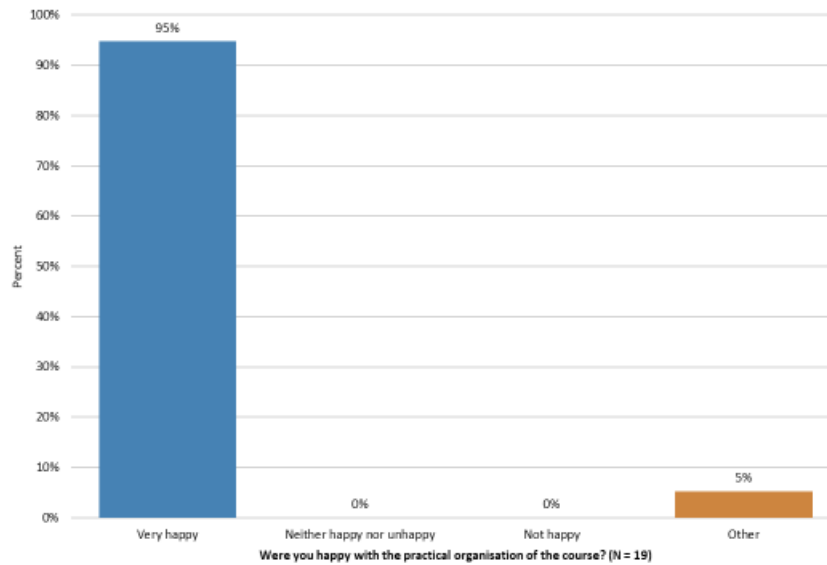
<p>7 May: 14:00 CET</p> <p>10 May: 14:00 CET</p>	<p>understand the nature and performance of traditional materials used in historic buildings.</p> <p>We will explore a variety of investigative tools and techniques used to assess the conditions. We will diagnose common decay mechanisms and evaluate the performance of historic repairs.</p> <p>Extra lectures on Ed-X with</p> <ul style="list-style-type: none"> <li>- Sjur Mehlum, Multiconsult Norway: The preservation of the Norwegian Stave Churches.</li> <li>- Margarita Kisternaya: Conservation of the Church of the Transfiguration (Kizhi Pogost WHS, Russia).</li> </ul> <p>Zoom: Gord Macdonald, Marie Louise Anker (NTNU) Sjur Mehlum, Multiconsult, Norway, Margarita Kisternaya, Kizhi, Russia.</p> <p>Online panel discussion/ Webinar</p> <p>Zoom meeting. Presentation and discussions of student assignments.</p>
<b>11 - 18 May</b>	<b>UNIT 7: Building surface treatment and workshop</b>
<p>11 May: 14:00 CET</p> <p>EdX course platform</p> <p>14 May: 14:00 CET</p> <p>18 May: 14:00 CET</p>	<p>Zoom introduction to the Unit with Per-Willy Færgestad (Akershus Restoration Centre - MiA),</p> <p>Through the analysis of a door we can learn much about changed and developments in local building traditions. We can see which parts of the tree have been used and how this affects how it is put together. Often certain types of tree are favoured locally for a specific reason. We will study how the modern timber trade has changed local traditions, and discuss the consequences of this, including the increased use of chemicals. In this Unit we will also discuss the uses of traditional paints and compare them with the increased use of modern surface treatment both on interior and exterior surfaces.</p> <p>Extra presentations by Glenn Terje Løken (Riksantikvaren) Ole Andreas Klaveness – Master Painter</p> <p>Voluntary open session on Zoom for an informal round of Q&amp;A</p> <p>Zoom meeting. Presentation and discussions of student assignments.</p>
<b>18 May</b>	<p><b>Group examination</b></p> <p>Details to follow</p>
<p><b>21 May</b></p> <p>Zoom: 14:00 CET</p>	<p><b>Conclusion and webinar</b> with presentation by the different groups on Zoom</p> <p>Panel of examiners representing different participating institutions</p> <p>All: Course evaluation and feedback session</p>

### Appendix 3: Results of the written course evaluation

Following are the complete results of the written evaluation. 19 out of 20 participants responded. Additional comments are added in full below the graphs.

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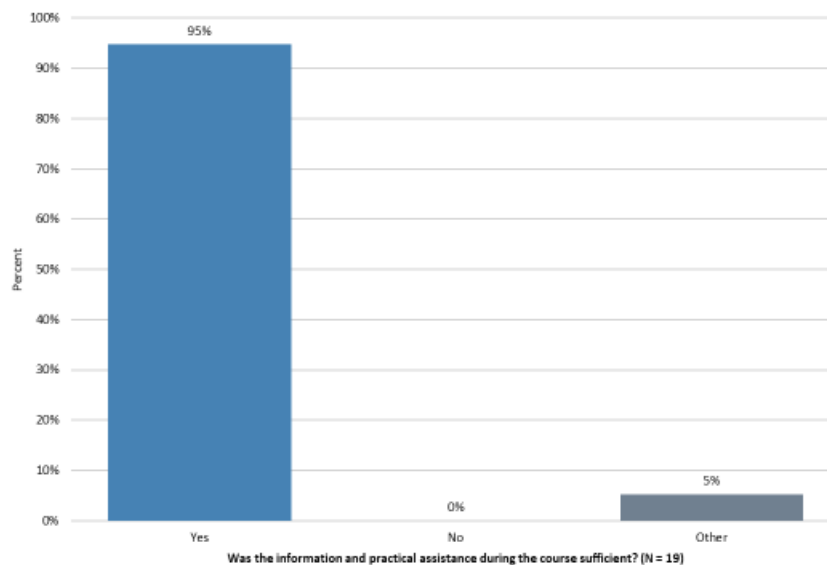
#### 1. Were you happy with the practical organisation of the course?



- *the climatology unit was redundant. Interesting, but redundant. It would have made more sense to do a unit on climate change and its changing and increasing impacts on heritage. The importance of RH was hammered throughout the course and didn't need a whole unit devoted to it. David was great though, as a lecturer.*

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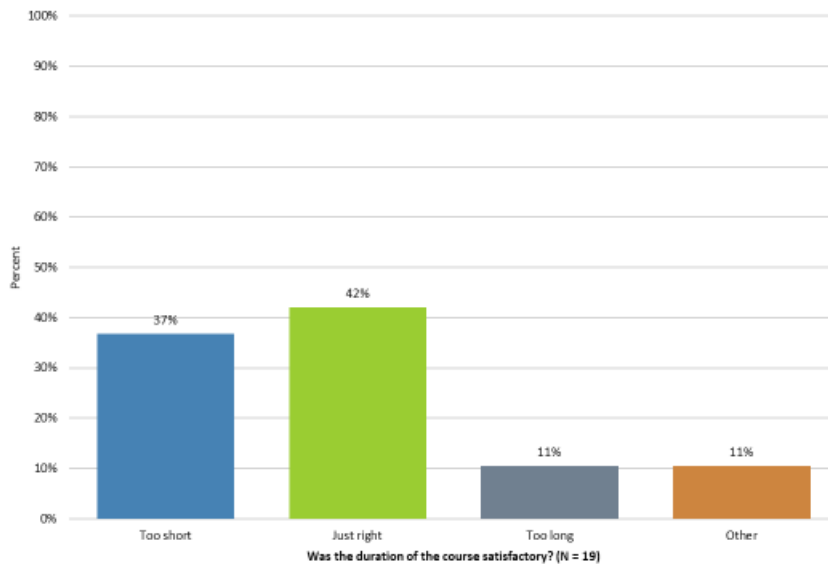
#### 2. Was the information and practical assistance during the course sufficient?



- *The online platform works insofar as the people participate. If all lecturers were as engaged as Shayne was, it would have been much more beneficial.*

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### 3. Was the duration of the course satisfactory?

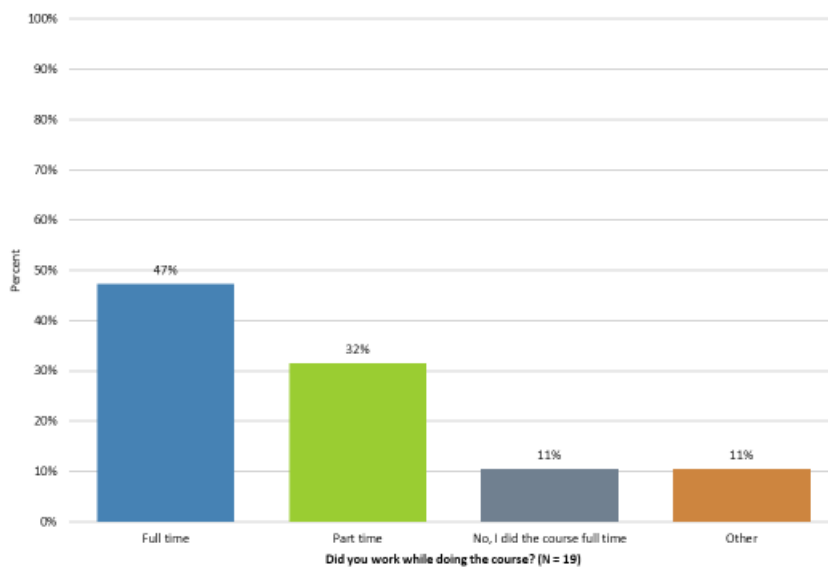


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- Shorter and more time each week would maybe work better. The pressure of doing the course and working was too much for 7 or 8 weeks.
- It wasn't too short, but it could have been 10 days instead of a week for each unit, which could have increased the length of the course by almost 3 weeks

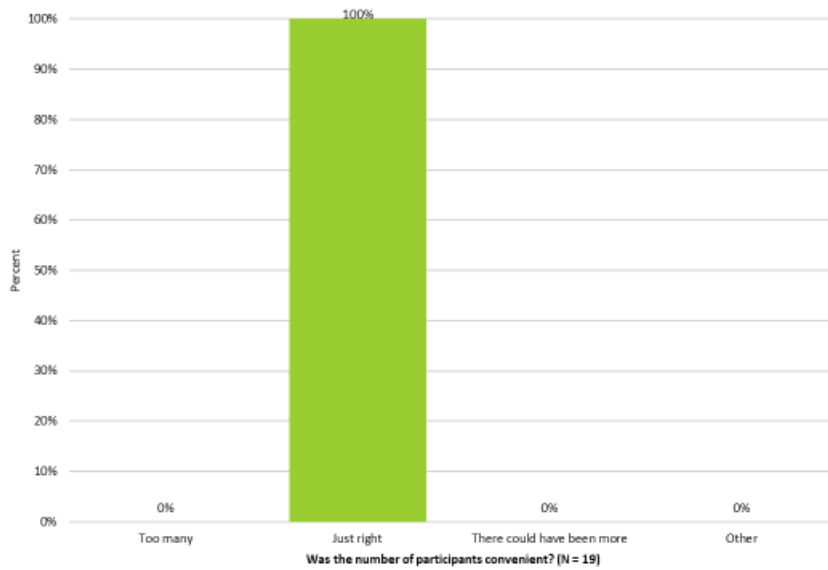
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### 4. Did you work while doing the course?



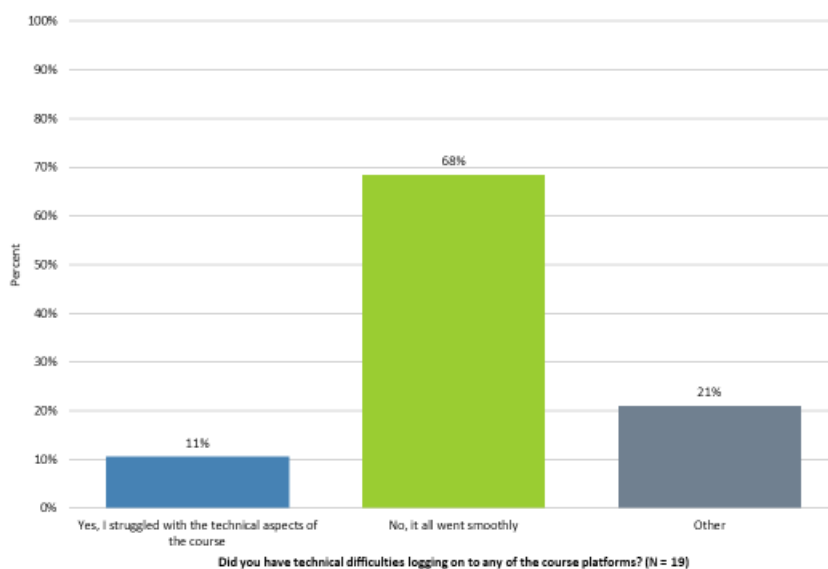
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### 5. Was the number of participants convenient?



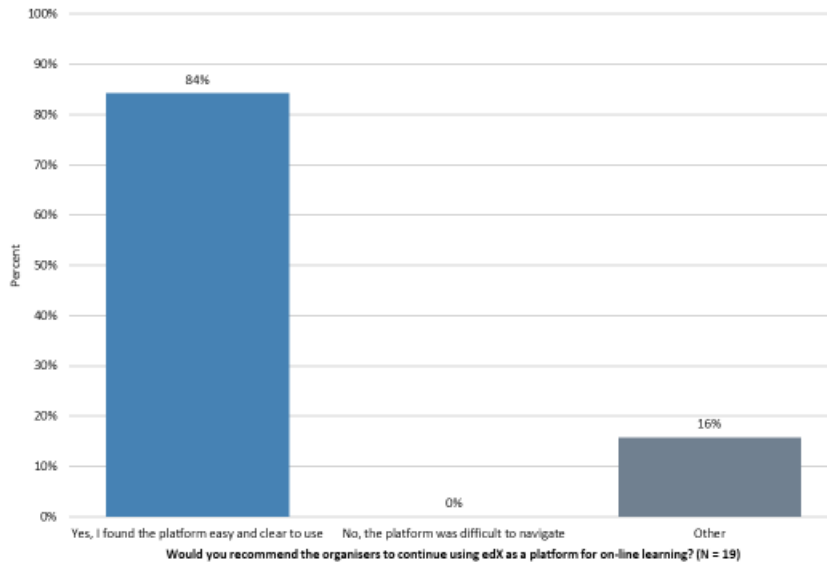
- *I think there was too many channels of information. With platforms, forums, emails and OneDrive. A bit confusing, and I didn't realize the full potential of fx. the forum until the very last day.*
- *It was fine for me, despite my poor internet connection. But I think this is important to highlight: This online platform is not democratic and does not serve all people equally. Those who are technologically equipped, in areas with good internet connection, and who generally speak English, will fare better than those who do not.*
- *I struggled for a while with locating discussion forum and it was a bit inconvenient reaching One drive because every time I had to locate the email with the link to one drive. Maybe it was only me who had this issue. However EdX was extremely efficient.*

### 6. Did you have technical difficulties logging on to any of the course platforms?



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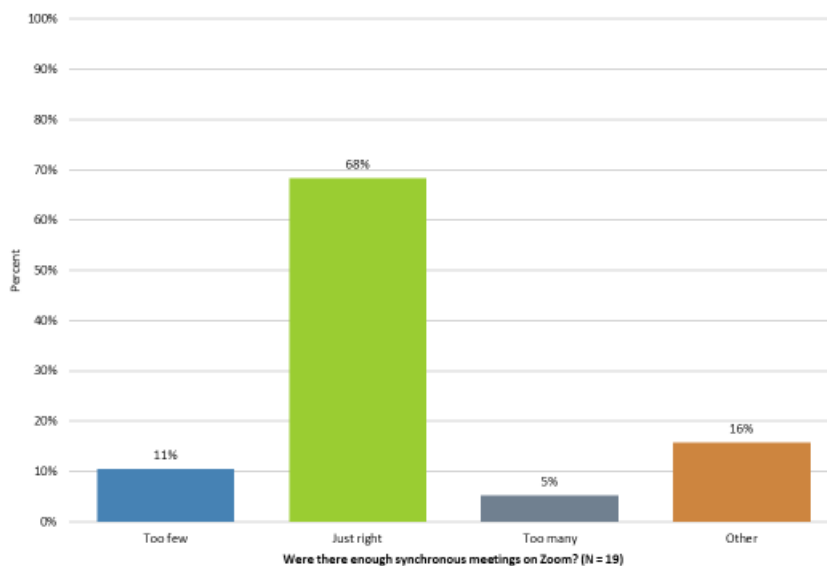
**7. Would you recommend the organisers to continue using edX as a platform for on-line learning?**



- *Yes, but maybe an orientation about the platform would be a big help. I honestly had trouble with the discussion part since there are so many different topics and conversation happening. But it was very fun to read and respond to some of the conversation.*

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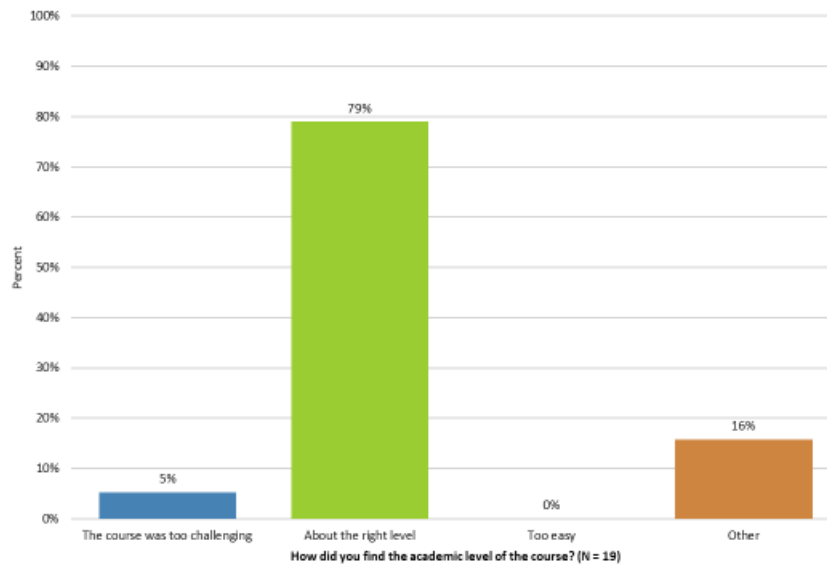
**8. Were there enough synchronous meetings on Zoom?**



- *For the amount of time we had, yes, however more would have been better. I think most of us agreed that the zoom meetings--both in large and small groups-- were some of the best parts of the course.*
- *Considering the duration of the program, It was right. However with a bit longer duration it could have been a little more. For eg. I had more time to go through the course during weekend and by then the doubt clearing session was already over.*

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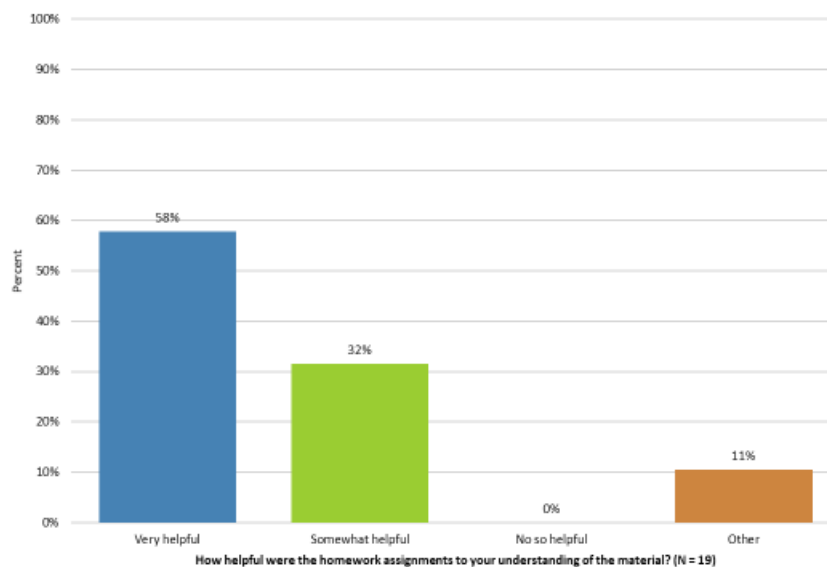
### 9. How did you find the academic level of the course?



- *The level was really good and challenging, but the time for studying was too little, which is very frustrating when you want to get the full benefit of such a good course.*

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### 10. How helpful were the homework assignments to your understanding of the material?

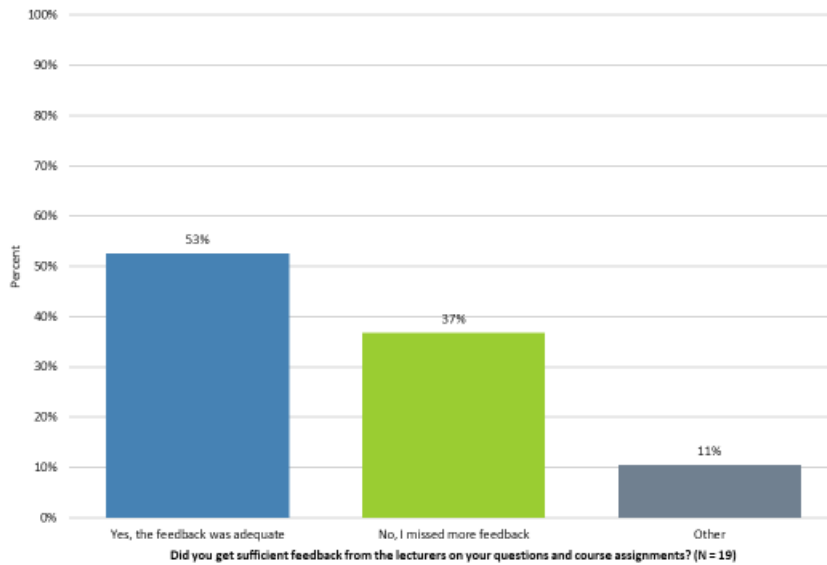


- *Not so helpful in the sense that it was a good thing to be working on the topic, but there was very little feedback on the work we did. Shayne did detailed feedback and some others did general feedback. But it would make the assignments more relevant if it wasn't most just work we did, and the not looked at again - to use the assignments actively would probably increase the interest in student to prioritise them.*
- *They were excellent, however, often the lecturers did not provide enough feedback. By the end of the course, it felt silly to put so much time into getting an assignment done right, to just submit it and have little or no response. Why put in the time? I learnt a lot on my own through these assignments, but it could have been better. Or maybe we could have*

*met as groups to discuss each other's assignments?*

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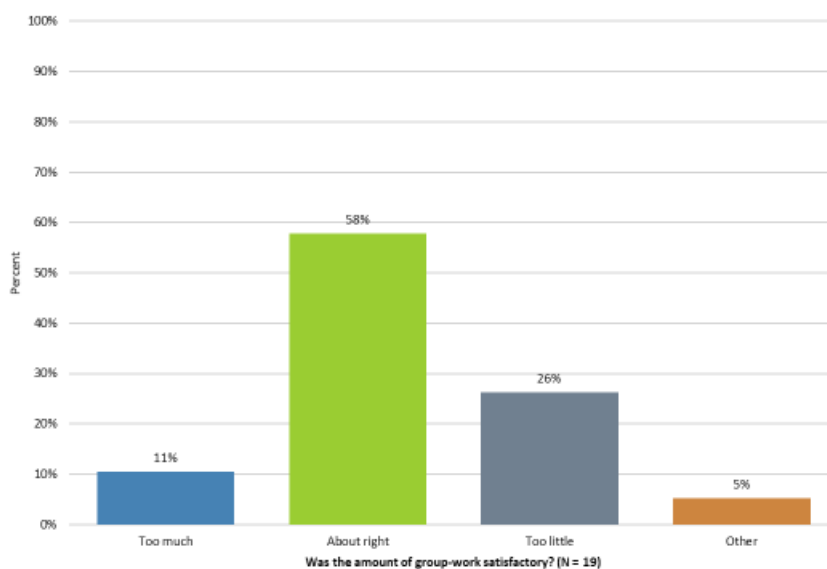
**11. Did you get sufficient feedback from the lecturers on your questions and course assignments?**



- *On questions yes. They were very good at following up on questions. Our assignments felt a bit pointless because of lack of detailed useful feedback. Feedback in Unit 1 fx. was just a brief summary of which topic we had each written about. It feels a bit strange when the questions for the assignments were often quite good and with focus on detail and complexity.*

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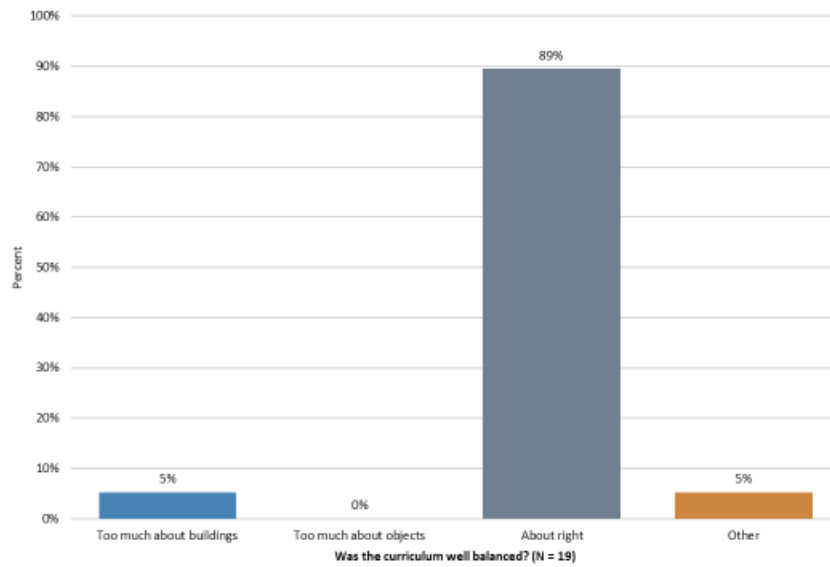
**12. Was the amount of group-work satisfactory?**



- *I would have liked less individual assignments and more group assignments.*

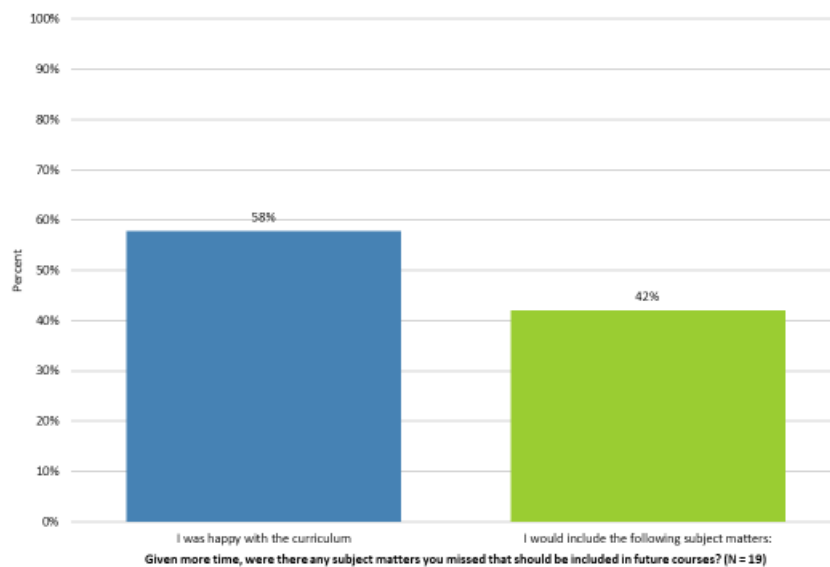
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### 13. Was the curriculum well balanced?



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### 14. Given more time, were there any subject matters you missed that should be included in future courses?

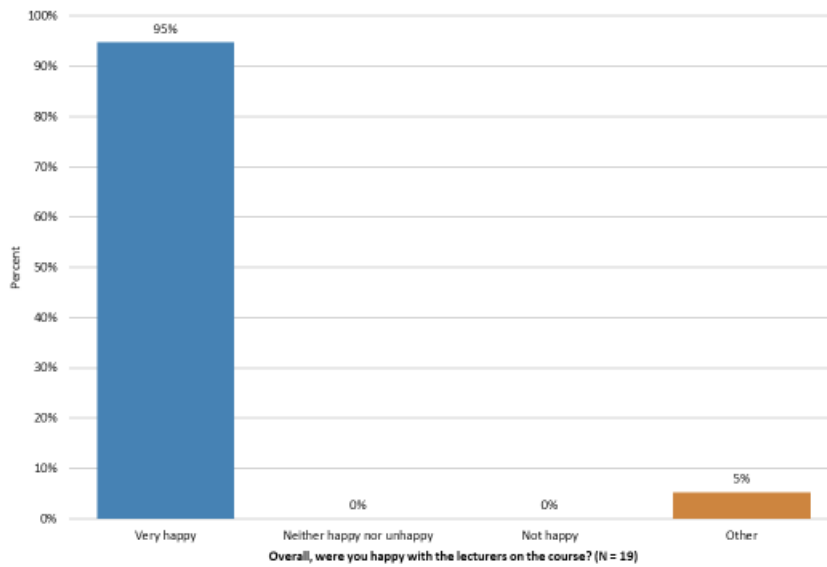


- *Polychromed wood (sculpture, panel paintings, altarpieces)*
- *More presentations about practical conservation of wooden structures and wood treatment*
- *the surface treatment lecture felt too rushed - I don't think this subject worked so well online*
- *I would include the following subject matters:*
- *double the length of the course, and go deeper into the curriculum.*
- *Forestry, more on finishes and in particular exterior finishes on built heritage.*
- *researching historical craft techniques, reading and interpreting them, fire protection, more information about painting and surface treatment*
- *Plastering historical wooden surfaces, conservation of wooden roofs as I find that subject very challenging*



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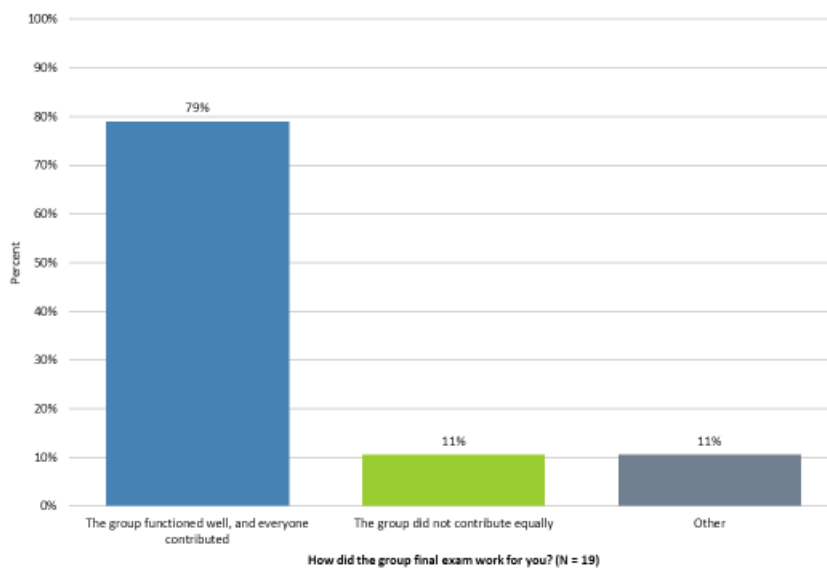
**15. Overall, were you happy with the lecturers on the course?**



- *I am amazed by the level of the lectures. every week I was baffled!*

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**16. How did the group final exam work for you?**



- *timing over multiple time zones was difficult. I felt that I could not contribute well for this reason*
- *It was a great exercise, but it felt too rushed, and again, the digital platform and reliance on internet connections, etc., meant that some of us could contribute more than others.*

**17. Which part of the course was most useful to you?**

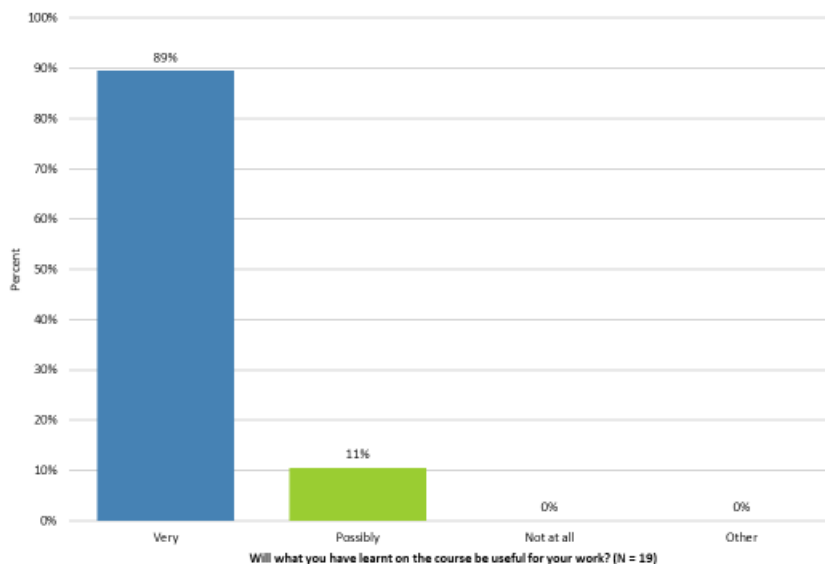
- *I found Unit 2 and Unit 5 particularly pertinent to my current occupation. I also really appreciated the ongoing discussion about t conservation ethics and the decision-making process when approaching different types of objects/buildings. Being able to meet in smaller groups was also very useful, as it gave us the chance to exchange*

ideas and have conversations in a more natural setting than the official Zoom meetings.

- Knowing what the wood is made up of, and how it is converted that determines its strength and longevity of any structures and object. The impact of environmental conditions on objects and structures and its control, the impact of climate change, the importance of the materials, tools and techniques in restoration, the values attached to them .
- Units 2, 3 and 6 were designed just for me, as they were either focused on buildings or about properties of wood and timber. I was also happy with unit 1, as I was not very strong on the more theoretical side of wood conservation and built heritage theory. Especially unit 6 did a really good job of integrating bits from unit 1 into the lectures and tying theory and practice together.
- That's a very difficult question to answer. The discussion was very helpful, and I've learned a lot in all units. Even if I might only professionally apply part of the scope of the last units, I think that what will help me the most at developing better as a professional is precisely understanding better the disciplines that I was inexperienced with.
- The whole course exceeded my expectations, I must say that the organization and the topics are all pertinent, however the part of structures and doors was very useful to me because it is a field that is little explored in my work. But I think that the exchange of knowledge and experiences with my colleagues was the most enriching. Hopefully the course can be completed with a visit to Norway.

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### 18. Will what you have learnt on the course be useful for your work?

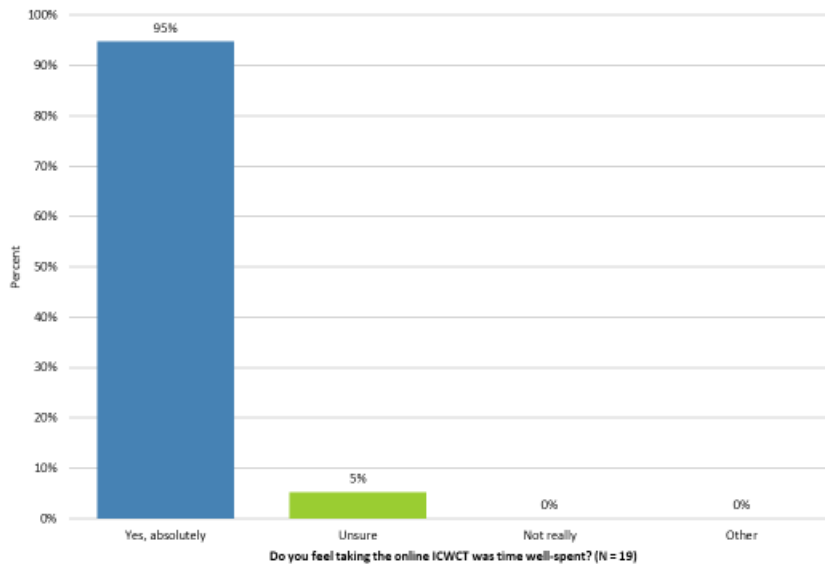


- I think the live Zoom introduction sessions were a bit redundant, since they usually "recycled" shortened versions of the lectures already on EDX, and we could find a presentation of the lecturer on the platform anyway. Perhaps they could be skipped next time or used instead to have more group discussions.
- All were useful and important.
- Unit 7. The field of surface treatment could easily have been expanded into a unit by itself, and I think it would be good to have more focus on this in the next course. It is a fascinating topic with many complicated aspects, that I don't think was explored enough.
- The part on the doors in unit 7 was interesting in itself, but a bit odd to specifically prioritize as a single component and the primary content for almost a full unit.
- Unit 2 as really interesting and important, but the number of films/lectures and reading material made it very hard to actually absorb all the knowledge that made the unit less useful, because of the stress it created.
- I probably felt that the exam was the least useful part, despite having interesting discussions and getting to know my

- group better. Having only two working days to prepare for it heavily disrupted my professional life, more than I expected and wished, and the oral presentations were not very helpful in my opinion and felt very rushed. For me, it felt like an unnecessary source of high stress, culminating what has already been a very intense period. I understand the need for the test or similar in order to provide university credits for those that could be interested in them, but I sincerely think that it could have been done with a continuous evaluation with the assignments that we have devoted so much time to prepare. I think that most of the students showed how committed they were on a daily basis and how much we were all learning throughout the course. That should be enough to provide the university credits.*
- *If the exam is unavoidable due to academic bureaucracy, a better alternative would be to do a similar exam but throughout one or two full weeks, allowing us to work during weekends and have proper in depth discussions, and allocating enough time in the oral presentation for proper discussion and feedback. All the rest of the course was very useful for me.*
  - *I have no complaints, but as my classmates were saying on the closing day, I think that being online could give more time to each unit to be able to understand well the different topics, because sometimes you could study only on weekends; also the EDX platform could warn the times of the videos and the total duration of the virtual material for each unit, however I think it was very well organized and easy to understand.*
  - *The lecturers are incredible, and their effort was reflected in the videos and topics covered.*

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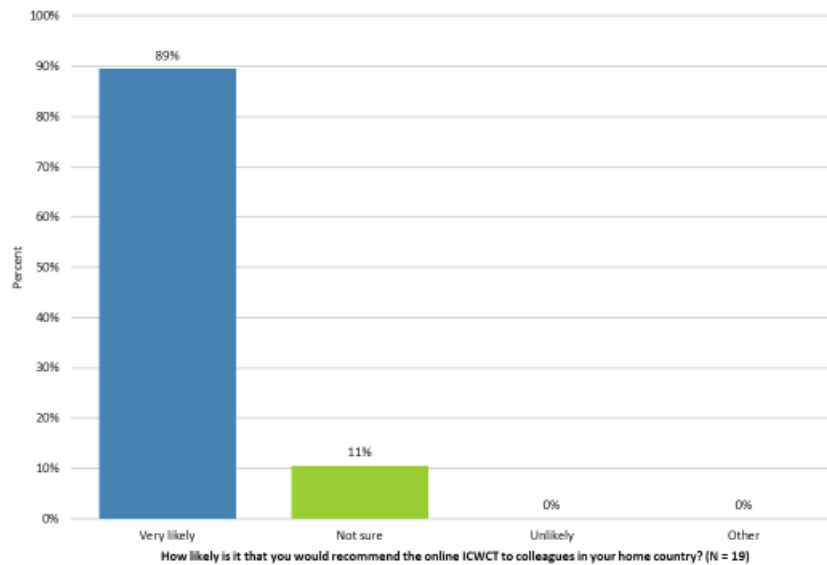
20. Do you feel taking the online ICWCT was time well-spent?



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**21. How likely is it that you would recommend the online ICWCT to colleagues in your home country?**



**22. Do you have any other comments or suggestions that would help us improve the course if we were to hold it online again?**

- *I think lengthening the duration of the online course should be taken into consideration. Since most of the people involved are working full time, having more time at hand to watch the videos would give them the chance to go through the material without rushing, as well as more time to interact on the EDX platform. I also think there should be, at the beginning of each Unit, a list of the number of videos and their lengths, to ease time management.*
- *The lecturers should also emphasize the importance of using the EDX platform to interact from the very beginning. I found myself very disinterested in using it until Unit 5, where a real incentive was given by the lecturer both during the video lectures as well as in the written assignments underneath the video. The EDX platform is a wonderful tool, but it is not the easiest to use at first, so I think that the lecturers and organizers should push the attendees to use it from the start perhaps more aggressively than they did at the beginning of the course.*
- *The online course is ok but still cannot replace the practicalities on ground.*
- *I would suggest that the exam and how it's done (and why) is made clearer. The questions were quite many and complex, and we were told that it was an oral exam, where we should only upload the main points. But it turned out that there was very little time for presenting the answers to these questions. The consequence was that the groups more or less presented the same points, without going into any detail with the large amount of work they had done. If most groups had not uploaded quite long documents the examiners would not have had any way of evaluating the work. And it turned out a bit frustrating that there was very little evaluation of what or how much the students had actually learned in the past weeks. I think the two examiners on the furniture part did really good, and asked some concrete and good questions, but it was a little strange to hear the building examiners ask several times about the imagined future use of the building, but hardly anything about wood conservation or assessment of damages which the students all knew a great deal about from their different jobs and had trained in for the last 7 weeks.*
- *I realize the complexity of doing an online exam for 20 people, but these are some observations from the day, that I think made it a bit unsatisfactory, compared to the high standard of the entire course itself. See former sections for suggestions on the exam format.*
- *Turning the course into a full-time experience could be an interesting option to help work life balance.*

- *Without a doubt the course exceeded my expectations, however having studied and prepared for years to be able to attend was a great disappointment. Now, offering an online course is perfect because it accommodates the new realities that we live in the world. However, I think that the hook and what attracted me to the course (particularly when talking about techniques and wood) was the classroom part; I think that the fact that it is now online will surely attract more people. I still don't lose hope of going someday to fulfil my dream of the face-to-face course.*

### **Comments from participants:**

- Hej Anne og Marie  
Mange tak for et godt og spændende kursus. Det var hårdt og udfordrende, men indholdet og det professionelle niveau var fantastisk.  
Tak for jeres indsats, i de her mærkelige online tider.  
*Jeppe Lorenzen 26.05.2021*
- Thank you very much again for everything you've done for us in the course. Meeting you weekly definitely made us feel more comfortable and welcome in these times of screens and long distances.  
*Marieta Nunez Garcia 24.05.2021*
- Dear Anne!  
Thanks a lot for giving me the opportunity to attend. It was really a wonderful course. It is way ahead what I thought about the course curriculum in the beginning.  
*Kavita Jain 24.05.2021*
- Dear Anne,-  
It has been a great experience for me throughout the course, meeting everyone with different experience, from small to great, Wow, it was great. The lectures have made me to see Historic and non-historic structures and objects with great details. Thanks to you and Marie for been the host. Sometimes I wonder how you are coping, more especially when we just started. Thanks to all the lectures and to those at the background making sure it works out well.  
*Christiana Alagbe, 21.05.2021*
- Dear Anne,  
I just wanted to say thank you again to you and Marie for organising a truly excellent course. It has been a such worthwhile and impactful experience; it has deepened my knowledge, improved my confidence, and allowed me to meet some wonderful, like-minded people. It has been a very welcome distraction and focus in a strange time. Also, I think it played a large part in helping me to secure a dream role, working on wooden objects. I can't wait to bring to the job everything I've learnt over the past few weeks. Thank you both again for all your efforts, and I very much hope to meet you in Oslo one day, along with the other participants!  
*Eliza Doherty, 21.05.2021*
- Dear Anne and Anne Marie  
I really have no words to congratulate you for this great experience; I think that part of the virtuality was new for all of us and without a doubt the platform, the contents, the lecturers, the other participants and others have been incredible; I am sure we will see each other sometime in Norway to personally pick up our t-shirt, hehehe, and continue sharing with this great group of people; thank you very much indeed.  
A big hug from Colombia  
*César Porras, 21.05.2021*



