

Computable Morphologies

Rhino6 Masterclass

Parametric Design Webinar.

<http://competitions.uni.xyz>

Brief

Computable Morphologies is a Parametric Certification webinar Course that focuses on the study of shapes and the process of making, calculating and optimizing them. The course is based on understanding the process of building a shape and then documenting this process to further automate it.

The course is carefully crafted for beginners and advanced users alike. It doesn't matter if you are someone who has no prior knowledge of 3D modeling and want to start from the start. Alternatively, if you're already somewhat experienced, and you want to know methods to enhance your design workflows we also cover advanced techniques to model complex shapes or how to automate tasks.



Rhinoceros 3D

What is Rhino and Why is it a good fit for me?

Rhino 6 is a NURBS modelling software that relies on surface geometries to realize complex shapes. It is a versatile software that is widely used by Architects, Industrial Designers, Design Engineers, Jewelry Designers and Graphic Designers. It has a great backward compatibility in terms of its UI, but at the same time its stupendously advanced for an intuitive design tool.

Rhinoceros 3D is also a robust base software for plugins such as Grasshopper (Visual Programming), Neon (Ray Traced Rendering), VisualARQ (BIM software). It is also a great platform for fabrication plugins such as RhinoNest (Pre fabrication nesting and optimization tool) and RhinoCAM (CAM software). So if you are someone who doesn't separate design, analysis and fabrication but want all of them to be a holistic part of your workflow, Rhino is a tool designed for you.

What will i Learn in this certification course?

Apart from providing the basic and advanced skill training in 3D Modeling, the course will upgrade your design skills to be able to design with complex shapes to solve complex design problems. The course will be a game changer in your design output from concept to details.

The course will also expose you to Avant-garde design practices, techniques and workflows which you can easily incorporate in your existing design workflow. The course seeks to propagate the digital, computational, process-driven design strategies which will certainly prove to be a game changer in your career.

Why is it Important to know 3D Modeling?

3D Modeling is a backbone of all the design industries. You might be an Architect, a freelance graphic designer, a 3D visualizer or an App developer, modeling your ideas digitally is as important for you as typing up a paragraph or taking a picture.

As the design community is a frontrunner of an open source market, digitization of ideas becomes one of the crucial aspects of this entire movement. 3D Modeling is also a core skill now that needs to be developed as AI approaches and is so keen on digitization.

PREMISE

OUTCOME

STRUCTURE

TIMELINE

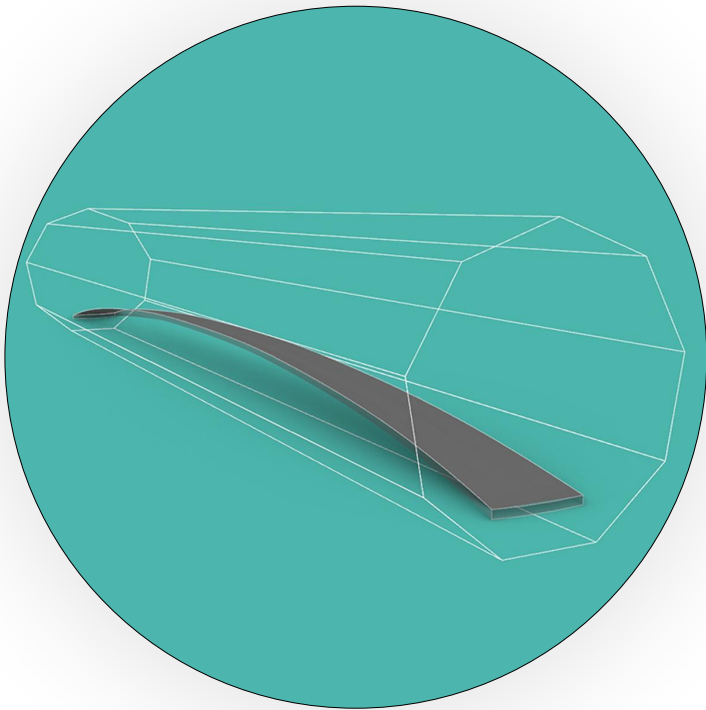
INSTRUCTOR

CHALLENGE

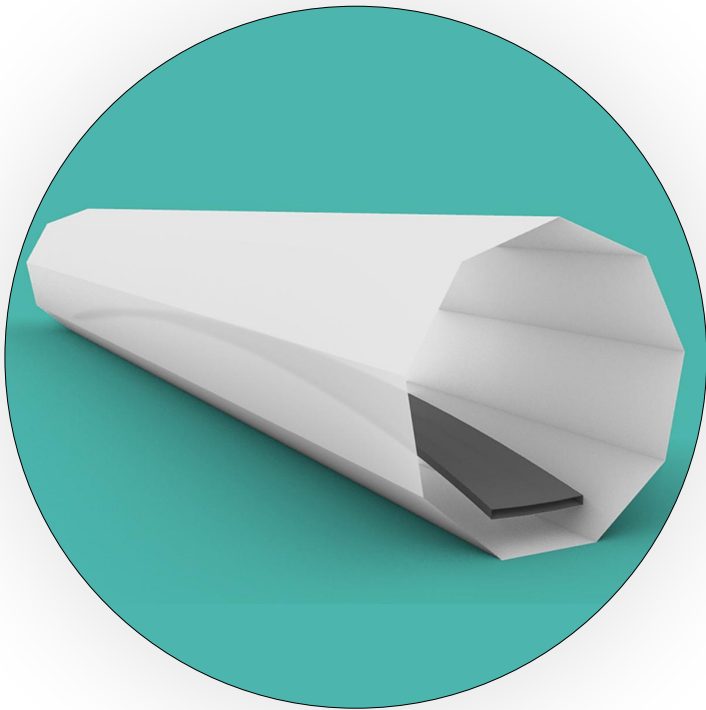
Why to take this Webinar Course?

This webinar course is a well researched step by step understanding of a 3d modeling software that is wide, intuitive and advanced . Rhino 6 has a plethora of tutorials, tips, tricks and hacks available online, but this is the Rhino 6 Masterclass you always wanted.

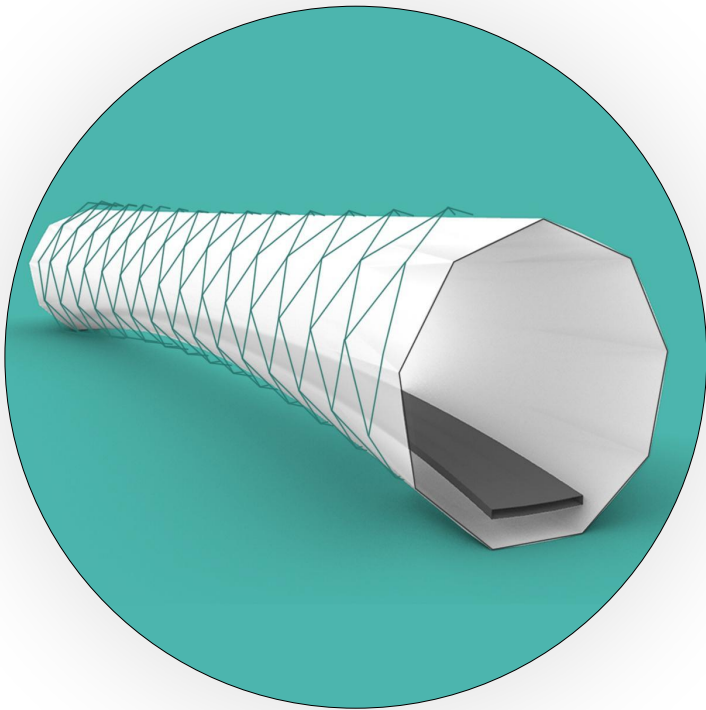
The Parametric Certification webinar Course has a well researched course structure with appropriately paced course material, filled with exercises that carry tangible outcomes which can suit beginners and advanced users alike.



Chapter 1



Chapter 2



Chapter 3



Chapter 4

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1

CHAPTER

Morphological Hierarchy

A Brief introduction with the understanding of the UI, default presets, opening, saving and exporting data, with an elaborate tutorial on points, polylines, curves and basic surfaces, while learning to model a canopy.

2

CHAPTER

Digital Sculpting

Basic and advanced tools to make complex surfaces. Learning to make one of these two buildings – 2010 Danish Pavilion, Beijing or L’Oceanografic, Valencia by implementing all the tools that have been taught

3

CHAPTER

Digital Detailing

Advanced modifications tools to generate surfaces, extracting different geometries from surfaces and Boolean operations, while modelling a basic architectural form for a specific typology and context..

4

CHAPTER

Computable Morphologies

Complex commands and operations and extracting documentation drawings in Rhino6, while detailing the architectural form from the last task and prepare a documentation animation for the entire design process.

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COURSE TIMINGS

30-11
SEPT - OCT

SESSION 1

TIMINGS

1100 – 1230 (CET)

1600 – 1730 (CET)

CH1 - Morphological Hierarchy

CH 2 - Digital Sculpting

CH 3 - Digital Detailing

CH 4 - Computable Morphologies

30 SEPT

SESSION 1

SESSION 2

TIMINGS

1100 – 1230 (CET)

1600 – 1730 (CET)

CH1 - Morphological Hierarchy

CH 2 - Digital Sculpting

CH 3 - Digital Detailing

CH 4 - Computable Morphologies

02 OCT

SESSION 2

SESSION 3

TIMINGS

1100 – 1230 (CET)

1600 – 1730 (CET)

CH1 - Morphological Hierarchy

CH 2 - Digital Sculpting

CH 3 - Digital Detailing

CH 4 - Computable Morphologies

04 OCT

SESSION 3



Angad Warang

Designer | Researcher | Design researcher | Research designer

Based in Spain and shuttling between India and the Netherlands, he is an architect who specialises in Computational Design and Digital Fabrication. He graduated with BArch from VNIT, Nagpur, India in 2012 and completed MS Arch in Biodigital Architecture from UIC, Barcelona, Spain. He is currently pursuing a PhD in Computational Design titled 'Architecture of Computational Ecosystems'. He also works as a Research Assistant in the Institute for Biodigital Architecture and Genetics, ESARQ, UIC, Barcelona.

Angad teaches Computational Design and Digital Fabrication as an Associate Professor at the Biodigital Architecture Master in UIC, Barcelona. He also teaches in several Architecture and Design institutes in India as a visiting faculty. He is constantly conducting workshops in India, Spain and the Netherlands as a contribution to his research.

He is also the co-founder and co-owner of **undesign^{labs}**, a research, design and education consultancy that specialises in digital fabrication.

<https://www.linkedin.com/in/angad-warang-7658b1117/>

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Vera Verto!

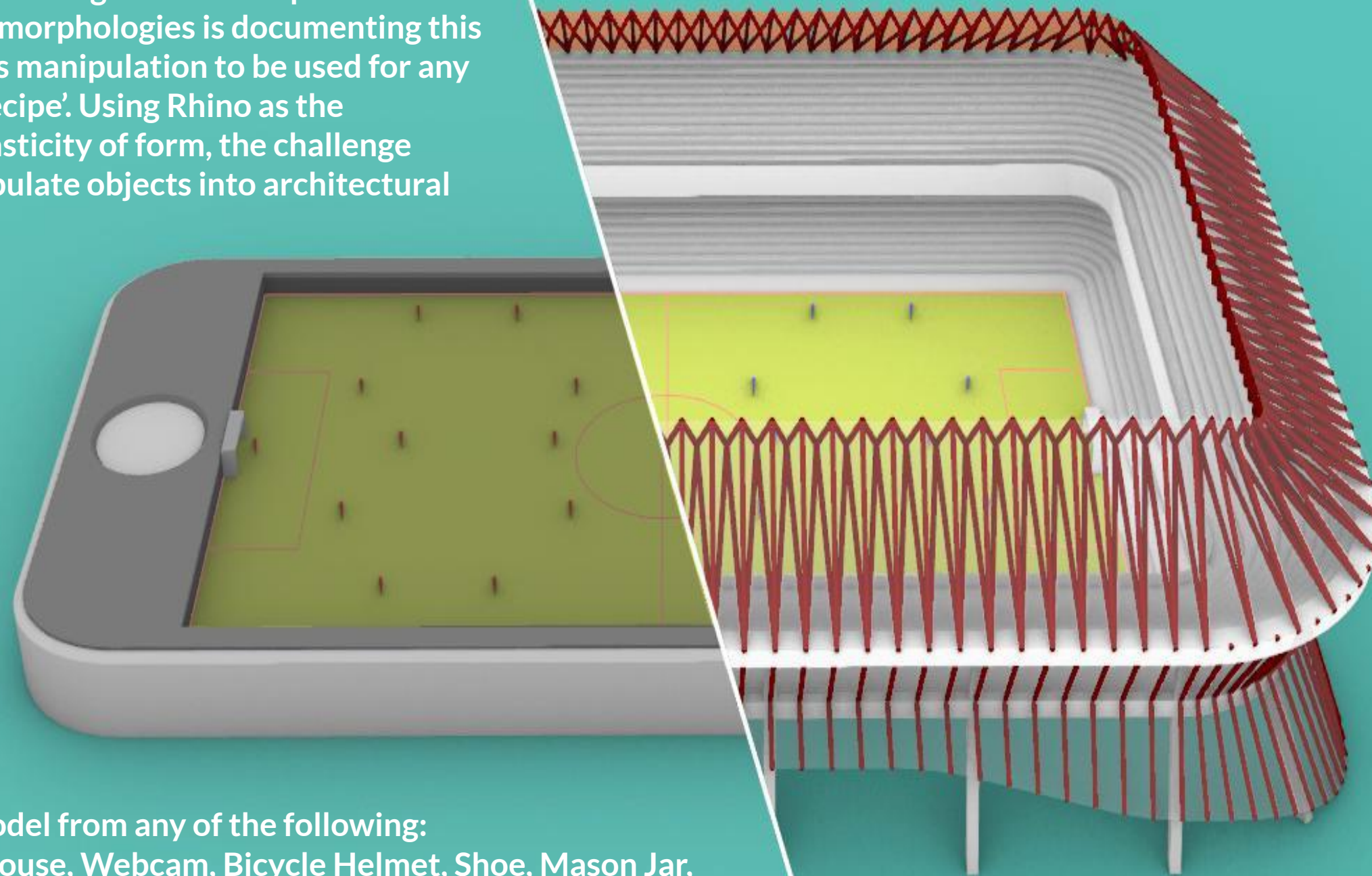
Morphology is a study of form that relies on understanding the plasticity of a material and then being able to manipulate it for a desired purpose. Computable morphologies is documenting this study of form, plasticity and its manipulation to be used for any desired purpose as a 'design recipe'. Using Rhino as the environment to exploit the plasticity of form, the challenge focuses on being able to manipulate objects into architectural spaces.

Submission Format:

- At least 01 feature render that could help visualize the entire design.
- Process documentation of the entire project as demonstrated during the webinar including all the 6 steps mentioned on the next page.

The Challenge:

- Select a daily object to model from any of the following: Cell phone, Wine glass, Mouse, Webcam, Bicycle Helmet, Shoe, Mason Jar, Coffee Mug, Measuring Tape or Tooth Brush
- Follow 6 steps to manipulate the object into Architecture. The steps are specified in detail on the next page.
- Needless to say, the solution should be designed in Rhino 6. Attention should be paid to scale, proportions and overall design ingenuity.



04
OCT

Webinar Challenge
Release Date

11
OCT

Submission deadline
for Webinar Challenge

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(Overview) | **Specifics**

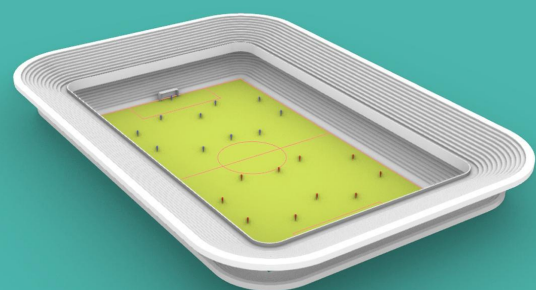


Step 1: Iconize

Model any 1 of these daily object: Cell phone, Wine glass, Mouse, Webcam, Bike Helmet, Shoe, Mason Jar, Coffee Mug, Measuring Tape or Tooth Brush. A conceptual model is enough, no details required.

Step 2: Contextualize

Scale, the model to appropriate dimensions, to imagine what function could be applied to it. E.g. here the iPhone 5S is scaled to take the dimensions of a Football field.

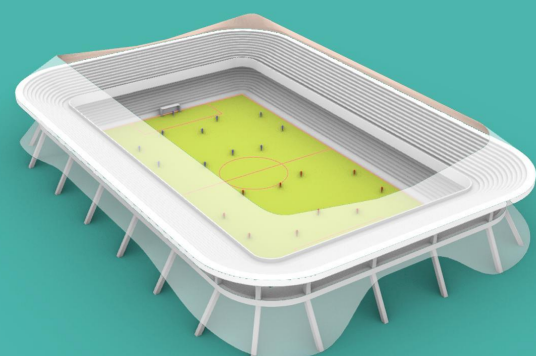
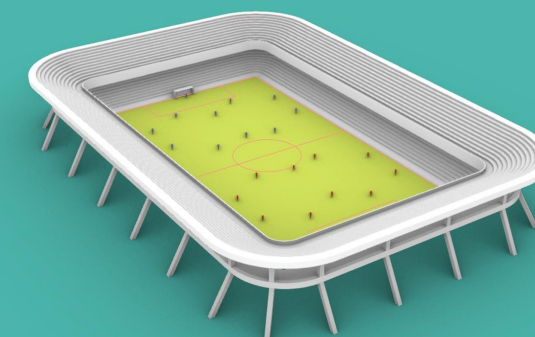


Step 3: Functionalize

Model the basic functional elements as per Step 2. Here, you could start using modification tools to appropriate the form as per the function. It is possible also to array several copies of the object from step 1 to make a system of elements. The possibilities are infinite!

Step 4: Structuralize

Add the structural elements to the modifications made in step 4. The structure need not be calculated and optimized. A simple intuitional structural system should be modelled where necessary.

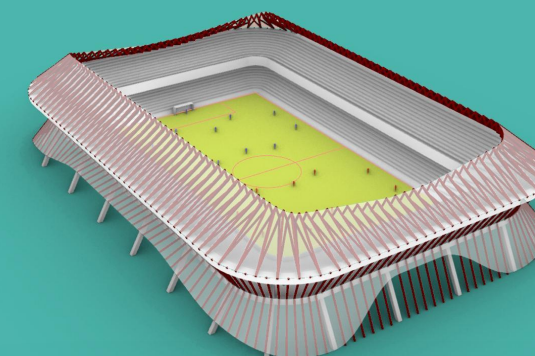


Step 5: Essentialize

Add the elements that provide visual and physical access, such as windows, doorways, corridors, porches, terraces, etc. Also consider a basic understanding of climatological conditions.

Step 6: Sensationalize

Finally, add those. Iconic elements to your design to make it stand out. These could be the facades, canopies, feature walls, murals, public sculptures, etc.



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Overview | (Specifics)

Each Webinar session will be **1.5 Hours long with live QnA's**. The Webinar will take place on **ZOHO Webinar Platform**. Participants will be able to ask questions by commenting on the videos, this gives Webinars a more interactive community environment.

All videos will be available, including the live streams, for your viewing as much as you like, even after the live stream as ended. This means you can enjoy the videos even if you are not available for the live stream session.

All Webinars will be conducted in **English** and **there is no previous experience of the topics required**.

FAQ

Q. Who can take part in the Webinars?

A. Webinars are open for all, even if you are a school student or you are working professional. You are welcome here to be a part of the webinars.

Q. What is the purpose of the Webinars?

A. Webinars are intended to improve the skill-based experiences among designers or budding designers.

Q. How do I ensure that I will be learning new skills in these Webinars?

A. Webinars are intended to improve the skill-based experiences among designers or budding designers. You can refer to the brief for the detailed structure of the webinar before registering.

Q. How many people would be participating in the webinar?

A. A maximum of 50 people are allowed for 1 batch of the webinar. In order to maintain the right balance between students and mentors, we limit the ratio of 1:50 between Mentor to Student.

Q. What if i miss a session of webinar?

A. Webinar lectures will be available for offline viewing after all the webinar sessions have ended. Students can revisit the sessions as many times as they want after they have done the registration.

Q. What would be duration of One Webinar Session?

A. One Webinar Session would last between 60-90 mins depending on the course structure and the mentor..

Q. Who can take part in the Webinars?

A. Webinars are open for all, even if you are a school student or you are working professional. You are welcome here to be a part of the webinars.

Q. How long would be one Webinar course?

A. One Webinar course would last as long as 7 days. There will be three sessions one day each, giving enough time for participants to complete their webinar challenge

Q. Who reserve the rights of the outcome of the competition/workshop?

A. Organizers/Mentor/Participants all reserve the rights of the content created or produced during/after the workshop. For details read our [terms of service](http://competitions.uni.xyz/terms-of-service)



AWARDS

The winning entry will receive a Certificate of Merit, based on the evaluation done by the mentor on the challenge given after the webinar has concluded. All the other participants will receive an E-Certificate for participation.



ABOUT

Uni Classrooms serves as a part of UNI in the realm of **Online Learning and portfolio building oriented design exercises.** Classrooms provide an online interactive cultural environment Online Webinars tend to bridge the Knowledge gap between students and the industry requirements. Learn what industry requires and be on the top of the requirement charts for the companies. Also get an edge from your peers. It intends to give opportunity to young students to explore their design skills in refreshing problems similar to their curriculum. The online lectures followed by related design challenges helps to cement the skills learnt in the webinar. Classroom Competitions embarks on the idea of creating fundamental design challenges to enhance the learning experience and education. It is a research initiative dedicated to providing opportunities for students of design schools from all domains to explore the ideas that go beyond the restrictions of usual architectural discourse.

Queries: support@uni.xyz

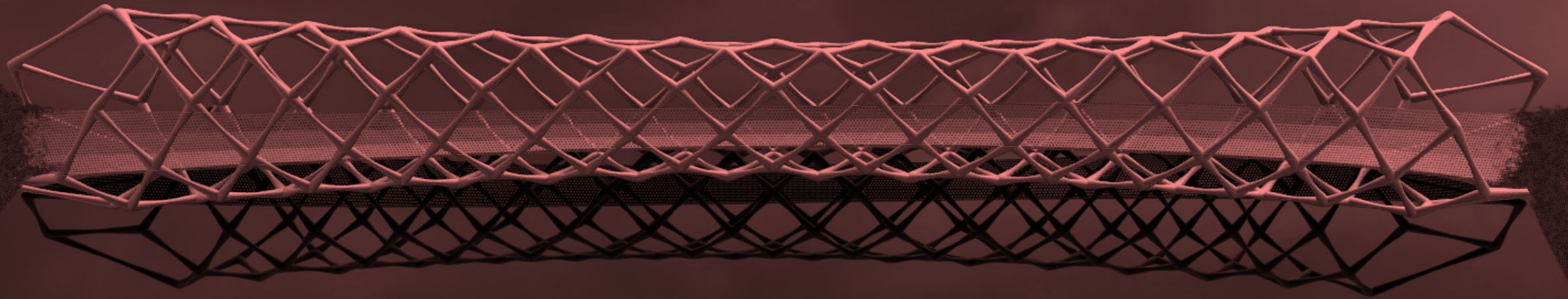
Discover other competitions: <http://competitions.uni.xyz>

Facebook: <https://www.facebook.com/unidesigntogether/>

Instagram: <https://www.instagram.com/uni.xyz/>

Discover FAQ's about this competition on our help forum here: <http://help.uni.xyz/>

Computable Morphologies



Towards creating **new design paradigm.**