



**University of  
Nottingham**  
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Master the Art of Advanced Structural Design

# Summer School & Master Class at the National Technical University of Athens

Organised by:

- School of Mechanical Engineering, National Technical University of Athens (Prof. Dr. Vasilios Spitas, Vice-Dean and Head of Machine Design Laboratory)
- Dept. of Mechanical, Materials and Manufacturing Engineering, The University of Nottingham Ningbo, China (Prof. Dr. Christos Spitas, Chair of Aerospace Engineering)

The Joint International Laboratory of Advanced Vehicles and Powertrains, a collaboration between the University of Nottingham (Ningbo campus, China), and the National Technical University of Athens (Athens, Greece), is proud to present a unique summer school and master class with subject:

## Advanced Structural Design and Project

Sharpen Your Skills in Just 1+1 Week:

This intensive program, running from Monday, July 1st to Friday, July 12th, 2024, will equip you with the latest computer-aided engineering tools and hands-on experience to tackle complex structural design challenges.

- The first week, **Monday, July 1st to Friday, July 5th**, will be devoted to in-person classes at the National Technical University of Athens. A limited number of participants from Greece and overseas may also attend via videoconferencing.
- The second week, **Monday, July 8th to Friday, July 12th**, dedicated to the application of the learned skills to a design project, will be conducted as a hybrid self-study with on-line videoconferencing and (optional) physical review and feedback sessions. It will be possible to complete this without physical presence at the National Technical University of Athens.

What You'll Learn:

- Step-by-step advanced design: Master the intricacies of advanced engineering design through a comprehensive curriculum.

- Software mastery: Gain **in-depth proficiency in industry-leading software**, including **Solidworks and Ansys**.
- Multiphysics modelling: Learn to **create high-fidelity load cases utilising coupled multiphysics models**.
- Real-world applications: Apply your newfound knowledge to **captivating case studies, from failure-resistant tensegrity structures to cutting-edge high-tenacity lightweight aircraft and spacecraft frames**.

#### Who Should Apply:

- This program is designed for motivated **undergraduate mechanical and civil engineering students** who have **completed their second year of undergraduate studies** (thus ensuring adequate background in mechanics, physics and engineering drawing and communication), and up to and including the final year. Prior knowledge of software tools is not required -but can ease the learning curve.
- **Post-graduate (master and doctoral) mechanical and civil engineering students** are welcome to apply - and will be given the option to expand the challenge of their individual projects according to their particular competency backgrounds.

#### Demonstration:

- The best designs will be selected for demonstration and their **prototypes will be built and exhibited by the organising universities, crediting the original design study**.

#### Benefits:

- Gain a **robust skillset** in advanced structural design using industry-standard software.
- Tackle **complex engineering problems** with confidence.
- **Network** with fellow students and leading academics.
- Build your **design portfolio** (vital for international job-hunting/ professional memberships!)
- **Earn a certificate** upon successful completion of the program.

#### Participation and fees:

- This summer school and master class is fully sponsored by the University of Nottingham (Ningbo campus, China) and the National Technical University of Athens (Athens, Greece).
- **Participation is free for registered students of the organising universities.**

#### Don't Miss Out!

Space is limited! Apply now to secure your spot in this transformative learning experience.

#### For enquiries and registration:

- **Contact us by email** ([mdlab@ntua.gr](mailto:mdlab@ntua.gr))
- Visit <http://www.mdlab.mech.ntua.gr/> (hosting laboratory), <http://www.mech.ntua.gr/en/> and <https://www.nottingham.edu.cn/en/science-engineering/> for an overview