Last updated: Sep 2018, from the Appendix of the Book Space Architecture Education for Engineers and Architects (Springer, 2016) https://www.springer.com/de/book/9783319192789

# A.2 Possibilities to Study Space Architecture

Possibilities to study space architecture are limited. Only a few universities offer regular programs or classes. The courses may vary every academic year and not be offered on a regular basis. The following schools and universities offer Space Architecture classes at the time of this writing:

#### A.2.1 Undergraduate in the US

Cal Poly Pomona has a regular architecture program, and a space architecture studio by Professor Michael Fox.

https://env.cpp.edu/arc/arc; http://beyondthepaleblue.com

Pratt Institute, Architectural program. Michael Morris, Visiting Assistant Professor Undergraduate Architecture leads space architecture studio class. The space architecture program, founded by the late architect Yoshiko Sato, has been consecutively taught for 13+ years, with 15 studios+ at 3 Universities (Columbia GSAPP, Pratt Institute, Parsons School of Design)

https://www.pratt.edu/faculty\_and\_staff/bio/?id=a2JiUnoyWlpNSFpkWVpBdFhm UDVLdz09

Colorado School of Mines, Space Resource Program is related to the field of space architecture. CSM SRP is "focusing on educating scientists, engineers, economists, entrepreneurs, and policy makers in the developing field of space resources." <u>https://space.mines.edu/</u>

#### A.2.2 Graduate in the US

Michigan Tech university offers several engineering-based courses related to space architecture with Paul Van Susante, Senior Lecturer, Mechanical Engineering—Engineering Mechanics Mining Innovation Enterprise (MINE) Faculty Advisor. https://www.mtu.edu/mechanical/people/lecturers/van-susante/

Oklahoma State University. This university is currently offering an interdisciplinary design course in connection to the NASA X-Hab competition. The course is under mentorship of Dr. Scott Howe. http://go.okstate.edu/

Sasakawa International Center for Space Architecture (SICSA) of the Cullen College of Engineering, University of Houston, offers the world's only Master of Science in Space Architecture degree. MS-Space Architecture is an interdisciplinary program and fully dedicated to the field of space architecture. Students accepted with a bachelor degree in architecture, industrial design, engineering and science. Dr. Olga Bannova is the director of SICSA and its MS-Space Architecture program. <u>http://sicsa.egr.uh.edu/</u>

University of Southern California. The graduate Space Exploration Architectures Concept Synthesis Studio is offered by the Department of Astronautical Engineering and guided by Madhu Thangavelu.

astronautics.usc.edu/student-projects/space-exploration-studio

University of Maryland, Department of Aerospace Engineering. The university has a well-established engineering based Space Systems Laboratory directed by Dr. David Akin. <u>https://aero.umd.edu/faculty/akin</u>

## A.2.3 Schools in Europe

The International Space University (France). ISU hosts a one-year Master's program and a two-month Space Studies program. Its curriculum covers many disciplines that related to space industry and enterprises, space science, space engineering, systems engineering, space policy and law, business and management, and space and society. Programs include an intense student research Team Project offering graduate students and young space professionals an opportunity to work on complex problems in the intercultural team environment. www.isunet.edu

Vienna University of Technology (Austria). The school offers design courses in space architecture and a regular course on Emerging Fields in Architecture that includes lecture series on Extreme Architecture every winter semester. All courses are embedded into the Master of Architecture curriculum. The program is led by by Dr. Sandra Häuplik-Meusburger.

https://www.tuwien.ac.at/en/

École nationale supérieure d'architecture de Stasbourg. The school offers design courses in space architecture. The program is led by Prof. Emmanuel Dufrasnes. Invited teachers are Ondrej Doule, Danijela Stupar(ISU), Olivier Walter (ENSA Paris Val de Seine), Grégoire Chabrol (ECAM), Dominique Knittel (University of Strasbourg) and Jean-Jacques Favier.

http://www.arches.urbicoop.eu/formations.html

School of Industrial Design, Lund University (Sweden). The school offers a onesemester Industrial Design course and a graduate level, also one-semester architectural course on "Extreme Environments: Space Architecture". Both classes include two weeks visit to NASA JSC in connection with Space and Terra Architecture & Design (STAR Design) program. The STAR is a NASA educational outreach program at the Johnson Space Center in Houston. The goal of the program is to expand the developmental knowledge of design in extreme environments. (<u>http://www.ide.lth.se/courses/industrial-design-project-iii-iden25/</u>). The industrial design program is led by Per Liljeqvist. http://www.lunduniversity.lu.se/

## A.2.4 Other Design studies

Other design studies related to space architecture for further reference are listed below.

Space Development Theory and Practice (SDTP) summer program at the Bauman Moscow State Technical University (BMSTU), Russia.

Project-oriented two-week program engages international students together with BMSTU engineering students from its Youth Space Center to work on a team project and present it to a formal jury of distinguished guests. Graduates of the program receive Certificates of Completion.

http://ysc.sm.bmstu.ru/eng/sdtp/back.htm

Cornell University. College of Agriculture and Life Sciences, Department of Biological and Environmental Engineering.

Professor Jean Hunter's research group is working on design of food processing and waste management systems for long-term space colonies. She teaches engineering principles and their application to identifying and solving problems involving biological systems.

http://bee.cals.cornell.edu/

University of Colorado, Aerospace Engineering Sciences Department. Master's curriculum 'Bioastronautics'

A series of courses address human spacecraft design, including characterization of space environment, definitions of vehicle systems, and physiological and psychological stressors. A master's curriculum 'Bioastronautics' is offered by David M. Klaus.

http://www.colorado.edu/aerospace/