

Syllabus: Introduction to BioDesign

TU Berlin Summer University 2019 Term 2b

Week 1 July 8th-12th

	8	9	10	11	12
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Welcome Day! Room H 3005, 3 rd floor, TUB main building 10:30: Orientation session 12:30-13:15: Buffet lunch 13:30-15:30: First class session 15:30-16:15: Campus Tour 16:15-16:45: Coffee & Cake	Interactive systems that are alive	Biodesign guidelines	Study case: "latro algae lamp"	Study case: "bio-dream" installation
11:00 - 12:30		Bioluminescence	Hands-on: grow the bacteria and algae	Small groups: ideate your own project	Interaction with living matter
13:30 - 15:30		Hands-on: make media for bacteria	Cultural Program	Hands-on: prototype your own design	Small groups: add interactivity to your design
16:00 +					Cultural Program

Week 2 July 15th-19th

	15	16	17	18	19
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Bioart vs Biodesign	Biodesign for sustainability	Biodesign for education	Transhumanism in biodesign	
11:00 - 12:30	Code of ethics and society implications	Study case: "sustainable cannibalism" and "self-repair lab"	Study case: "Rafigh"	Immortality in biodesign	
13:30 – 15:30	Safety concerns in biodesign	Demo your project and get feedback	Cultural Program	Field trip: ">top" – interdisciplinary project space	Recap session
16:00 +	Cultural Program	Hands-on: practical help with your project		Practical assessment: at >top install your biodesign project + exhibition + Group presentation	Certificates Ceremony Lichthof, 1st floor, TU Berlin main building Start 18:00 - 20:30

Key

Lecture	Field Trip or Practical	Assessment	Cultural Program activity*
---------	-------------------------	------------	----------------------------

*The cultural program timetable will be emailed to you shortly before your course starts. For more information about the cultural program, and for examples of previous schedules, head here: https://www.tu-berlin.de/menue/summer_university/cultural_program/

Assessment information

You will be assessed in the following ways (see yellow sessions in schedule, if applicable):

- Demo on 16th July 2019
- Practical assignment, due 18th July 2019
- Group presentation, on 19th July 2019

Your assessments will be weighted as follows:

- Demo 40%
- Practical assignment 40%
- Group presentation 20%

Grading information

All participants of the TU Berlin Summer & Winter University are required to select their grading option at the time of registration. The two options available are (i) graded or (ii) pass/fail.

All participants who select option (i) graded, will receive a grade under the German grading system. The following table provides an overview of the grading system and equivalent scores for international credit transfers:

Total mark	German grade	English description
More or equal to 95	1,0	Excellent
More or equal to 90	1,3	Very good
More or equal to 85	1,7	Good
More or equal to 80	2,0	Good
More or equal to 75	2,3	Good
More or equal to 70	2,7	Satisfactory
More or equal to 65	3,0	Satisfactory
More or equal to 60	3,3	Satisfactory
More or equal to 55	3,7	Sufficient
More or equal to 50	4,0	Sufficient
Less than 50	5,0	Failed

Credit Points

ECTS is a point system and European standard developed by the Commission of the European Community. ECTS stands for European Credit Transfer System. The aim is to provide common procedures and guarantee academic recognition of studies abroad. The credit system is based on student workload. All lectures, seminars, excursions and homework count towards the workload. One point is awarded for the equivalent of 25-30 hours of workload.

Reading list

Here are reading materials which will be used or referred to during the course. You are not required to read these in advance – this is for your information and reference. All sources below are available either open source, in the TU Berlin library, or will be provided to you directly by your lecturers, during the course.

To search resources available in the TU Berlin library, check here: <https://www.ub.tu-berlin.de/en/searching-for-resources/>

Websites (compulsory, recommended to browse before the start of the course):

1. >top project space: <http://www.top-ev.de/>
2. Latro algae lamp. <https://www.designboom.com/design/mike-thompson-latro-algae-lamp/>
3. Algae lamps. <https://sustainable-nano.com/2015/03/03/algae-lamps/>
4. Biodesign Challenge <http://biodesignchallenge.org/summit-2017-1/>
5. I Love My Glow Bunny. wired.com/2001/04/bunny/
6. Hackteria. <http://www.hackteria.org/>
7. Toccata for Pyrocystis Fusiformis. <http://www.andreasgreiner.com/works/toccata-for-pyrocystis-fusiformis/?/=random>
8. GENESIS. <http://www.ekac.org/geninfo.html>
9. 6. Playing with Pigs. <http://www.playingwithpigs.nl/>
10. 7. The Human Super-organism. <http://annadumitriu.tumblr.com/Super-organism>

Scientific papers (compulsory, no need to read in advance, but it can help familiarize with the topic):

1. Foad Hamidi and Melanie Baljko. 2017. Engaging Children Using a Digital Living Media System. In Proceedings of the 2017 Conference on Designing Interactive Systems (DIS '17). ACM, New York, NY, USA
2. Donna Haraway. 2006. A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late 20th Century. In the International Handbook of Virtual Learning Environments. Springer, Dordrecht, 117– 158.
3. George A. Burrell and Frank M. Seibert. 1914. Experiments with Small Animals and Carbon Monoxide. *Journal of Industrial & Engineering Chemistry* 6, 3 (March 1914), 241–244.
4. Owen N Fernando, Adrian D Cheok, Tim Merritt, Roshan L Peiris, Charith L Fernando, Nimesha Ranasinghe, and Kasun Karunanayaka. 2009. Babbage cabbage: Biological empathetic media. In *VRIC Laval Virtual Proceedings*. 363–366.

Books (optional, we will address very small excerpts in class):

1. Roy Ascott. 2007. *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness* (1 edition ed.). University of California Press, Berkeley.
2. Jane Bennett. 2010. *Vibrant Matter: A Political Ecology of Things* (1st edition). Duke University Press Books, Durham.
3. Donald S. Blough. 1961. Experiments in animal psychophysics. *Scientific American* 205, 1 (1961), 113–123. <http://www.jstor.org/stable/24937010>