

## Syllabus: CanSat: Hands-On Satellite Design

### TU Berlin Summer University 2019 Term 3

#### Week 1 July 22<sup>nd</sup>-26<sup>th</sup>

	22	23	24	25	26
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	<b>Welcome Day!</b> Room tbc, building tbc 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	Introduction to astronautics	Introduction to electronics design	Introduction to electronics design	No class
11:00 - 12:30		Introduction to astronautics and short tour	Introduction to electronics design	Introduction to soldering and using workshop tools	Cultural Program
13:30 - 15:30		Project work: Planning the CanSat mission	Cultural Program	Introduction to soldering and using workshop tools	
16:00 +					

#### Week 2 July 29<sup>th</sup>- August 2<sup>nd</sup>

	29	30	31	1	2
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Introduction to CAD design	Introduction to programming	Project work: CanSat mission design	Introduction to programming	No class
11:00 - 12:30	Introduction to CAD design	Introduction to programming	Project work: CanSat mission design	Introduction to programming	Cultural Program
13:30 - 15:30	Project work: CanSat mission design	Project work: CanSat mission design	Cultural Program	Project work: CanSat mission design	
16:00 +	Cultural Program				

## Week 3 August 5<sup>th</sup>- 9<sup>th</sup>

	5	6	7	8	9
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Satellite subsystems	Introduction to programming	Project work: CanSat mission design	Project work: CanSat mission design	No class
11:00 - 12:30	Satellite subsystems	Introduction to programming	Project work: CanSat mission design	Project work: CanSat mission design	
13:30 - 15:30	Project work: CanSat mission design	Project work: CanSat mission design	Cultural Program	Project work: CanSat mission design	
16:00 +	Cultural Program				

## Week 4 August 12<sup>th</sup>-16<sup>th</sup>

	12	13	14	15	16
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	TU Berlin Satellites	Project work: CanSat mission design	Test	Launch campaign	No class
11:00 - 12:30	TU Berlin Satellites	Project work: CanSat mission design	Presentation	Launch campaign	No class
13:30 - 15:30	Project work: CanSat mission design	Project work: CanSat mission design	Project work: CanSat mission design	Launch campaign	<b>Certificates Ceremony</b> Lichthof, 1 <sup>st</sup> floor, TU Berlin main building
16:00 +	Cultural Program				

### Key

Lecture	Field Trip or Practical	Assessment	Cultural Program activity*
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\*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/](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):

- Short test on 14.08.19

- Project presentation on 14.08.19
- Project demonstration on 15.08.19

Your assessments will be weighted as follows:

- Test 30% (individual assessment)
- Project presentation 30% (group assessment)
- Project demonstration 40% (group assessment)

## 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/>

1. Handbook of Space Technology, W. Ley
2. Make: Electronics, C. Platt
3. Arduino Cookbook, M. Margolis