Syllabus: Energy Revolution

TU Berlin Summer University 2019 Term 3

Week 1 July 22nd-26th

	22	23	24	25	26
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	**Welcome Day!** 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	Individual paper presentations (history & policy)	Decarbonizing the electricity sector	Global resource markets	Excursion: 50Hertz Transmission Control Center
11:00 - 12:30		Climate change & external effects	Policy instruments	Resources for the future	Cultural Program
13:30 - 15:30		Climate chang & external effects	Cultural Program	KEEP COOL gaming session	
16:00 +					

Week 2 July 29th- August 2nd

	29	30	31	1	2
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	History of the „Energiewende“	Assessment 1: individual paper presentations (technology)	Sector coupling, heat, transportation and power2x	Excursion: LEAG lignite power plant and mining site Jänschwalde; solar PV plant Lieberose	No class
11:00 - 12:30	Electricity markets in Europe	Renewable power generation	Demand side management and smart grids		
13:30 – 15:30	Conventional power generation and mining	Electricity Grid and Storage	Cultural Program		
16:00 +	Cultural Program				

Week 3 August 5th- 9th

	5	6	7	8	9
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Introduction to linear programming	Assessment 1: individual paper presentations (methodology	Modeling electricity flows and investment	Excursion: BMW i electric car factory in Leipzig	No class
11:00 - 12:30	Introduction to modeling software	Modeling flows	Data input and output		
13:30 – 15:30	Solving linear programs	Solving flow problems	Cultural Program		
16:00 +	Cultural Program				

Week 4 August 12th-16th

	12	13	14	15	16
	Monday	Tuesday	Wednesday	Thursday	Friday
9:00 - 10:30	Group work: electricity sector modeling	Group work: preparing assessment 2	Employment effects	Assessment 2: Group presentation Energiewende @home	No class
11:00 - 12:30	Group work: electricity sector modeling	Group work: preparing assessment 2	Enabling a just transition		Wrap-up, Conclusions, Outlook and Feedback
13:30 - 15:30	Group work: electricity sector modeling	Group work: preparing assessment 2	Group work: preparing assessment 2	No class	**Certificates Ceremony** Lichthof, 1st floor, TU Berlin main building
16:00 +	Cultural Program				

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

Assessment 1: Every participant is given one paper (10-20 pages) from one of the topics technology, history & policy, and methodology before the course and has to prepare a 10-15 min. presentation that will be held throughout the course sessions followed by a short group discussion.

Assessment 2: A presentation “Energiewende@home” has to be given in groups of 3-4 students on Thursday, August 17.

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/

References

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