Modeling Political Decisions for Sustainability: EU Carbon Removals

Fall (Winter) Term 2023/24

Professor Detlef F. Sprinz, Ph.D.

Purpose and Contents

This seminar will introduce students to the Predictioneer's Game, an applied model of multi-party decision-making. Subsequently, students will apply their modeling skills to specific political decisions on sustainability. The domain of application for the decision forecasts will be the degree of integration of Carbon Removals (negative emissions) into the EU Emissions Trading System. The language of instruction is English.

Learning Goals

Knowledge & Understanding

- background on political decision-making in medium-large actor settings,
- understand the core inputs & outputs of a prediction model, and
- decision-making on EU climate policies, esp. carbon removals.

Applying, Analyzing & Evaluating

- undertake predictions of multi-actor negotiations for a hitherto unresolved challenge of sustainability policy,
- agree, among students and facilitated by the instructors, on standardized position input scales as relevant to utilizing a policy prediction software, and
- research, execute, and evaluate your own simulation model runs.

Competences

- Students develop their own research strategy amendable to using policy prediction tools, e.g., for subsequent use in their thesis as well as in a corporate or political context, and
- work individually as well as in groups on a diverse set of assignments.

Logistics

Time: → *Course Overview* (below)

Location: →Course Overview (most sessions take place at Griebnitzsee, Building 6)

Circumstances may require the use of Zoom. Please regularly check \rightarrow Moodle for announcements.

- *Prerequisites:* Master, M.A., M.S., or doctoral student status, or special student status in Political Science, Public Administration, MAIB, MANIA, MPM, Sociology, Business Administration, Economics, and HPI; exceptions at the discretion of the instructor.
- Course Registration: →https://puls.uni-potsdam.de, Course: 430511 (you will be admitted to the waiting list).

Students *without* access to PULS send a brief email to the instructor and indicate (1) first & last name, (2) email (University of Potsdam email preferred), (4) field und semester of studies, (4) why they cannot access PULS, and (5) why they wish to take this course.

Deadline for Dropping the Course: 10 Nov. 2023

Credit Points: 5/6 or 9/10 (ECTS)

Course website: Moodle →https://moodle2.uni-

potsdam.de/course/view.php?id=39239

Capacity: 20

Contact Details:

detlef.sprinz@uni-potsdam.de (include *"MPD4S Fall 2023"* in the subject line)

www.sprinz.org

Office Hours: by appointment (preferably, please inquire after class or during breaks)

Practicalities

This course requires usage of Moodle and Zoom for our remote communication and interaction. In addition, we may use other digital tools. We will use Moodle for contents management (self-enrollment for students with a University of Potsdam account) and Zoom for video (as needed). You will need a computing device running Windows OS to run the software ("Predictioneer's Game") used for predicting negotiation outcomes.

Code of Conduct

If you are sick or have a communicable disease, incl. seasonal influenza, please stay at home and consult your medical doctor. If you miss an assignment, you must provide a medical doctor's certificate.

All students are assumed to be familiar with and will abide by the rules of proper academic conduct as specified by the University of Potsdam (→https://www.uni-potsdam.de/am-up/2011/ambek-2011-01-037-

039.pdf, German; https://www.uni-

potsdam.de/fileadmin/projects/studium/docs/03_studium_konkret/07_rec htsgrundlagen/plagiatsrichtlinie_EN.pdf, English), and for courses offered jointly with other universities and academic programs, their rules apply in addition; by default, the strictest rule applies. You are expected to undertake all your individual assignments independently. For group assignments, resulting products shall be authored exclusively by all group members (with individual components clearly marked). Failure to comply with such rules may lead to the consequences stipulated in \rightarrow https://www.uni-

potsdam.de/fileadmin/projects/ambek/Amtliche_Bekanntmachungen/2022 /Ausgabe_19/ambek-2022-019-786-811.pdf, https://www.unipotsdam.de/am-up/2021/ambek-2021-06-138a.pdf (German) and \rightarrow https://www.uni-

potsdam.de/fileadmin/projects/studium/docs/03_studium_konkret/07_rec htsgrundlagen/BAMAO_Lesefassung_EN.pdf (English) (§17).

Each written paper submission (excl. presentation files) in this course shall include \rightarrow https://www.uni-

potsdam.de/fileadmin01/projects/wisofak/Dateien/Studium/informationen _f_r_studierende_plagiatssoftware_april_2014.pdf (attach only page 2; in German only).

"Any use of AI to complete an assignment must be acknowledged in a citation that includes the prompt you submitted to the bot, the date of access, and the URL of the program"

(<u>https://poorvucenter.yale.edu/Alguidance</u>, 15 Oct. 2023). Failure to do so constitutes academic misconduct (see above).

All (personal) information and material that you encounter in conjunction with this course, on \rightarrow Zoom, or on \rightarrow Moodle shall be exclusively used for course-related purposes; they are not part of the public domain. As we will have guest speakers and an issue of current politics as the domain of application, "Chatham House Rules" apply:

"When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed."

(https://www.chathamhouse.org/about-us/chatham-house-rule, last accessed: 15 Oct. 2023).

Whenever you use outside services, you agree to abide by their respective End User License Agreement or equivalent. You have to read the EULA (End User License Agreement) of the Predictioneer's Game software, and you accept it automatically when submitting the simulation paper. You also automatically accept all rules of academic conduct for the entire course by submitting your first written assignment, whether this is a paper, presentation file, written test, quiz, or similar.

During our seminar sessions, I expect you to concentrate solely on this course, not other activities.

Students are expected to attend all sessions. If you fall ill, please stay at home and seek medical advice. In case you cannot submit assignments due to medical reasons, you must submit an appropriate medical certificate. In addition, in case you request accommodations ("Nachteilsausgleich"), please inform the instructors to this effect and provide the necessary documentation during the first three modules of this course.

In case observation of religious obligations interferes with academic deadlines, please notify the instructor well ahead of the deadlines.

For proper citation, please consult →https://poorvucenter.yale.edu/usingsources (English), https://www.uni-potsdam.de/de/cogscistudents/studienplanung/gute-wissenschaftlicher-praxis-plagiarismus (German), as well as https://www.uni-potsdam.de/en/cogscistudents/organizing-your-studies/academic-code-of-conduct-plagiarism (English).

Course Requirements and Grading

Students are expected to attend *all* classes and read *all* required readings *before* class so as to allow for informed discussions.

This course comprises a portfolio of assignments. Students receiving 5-6 ECTS will undertake the simulation paper and presentation as a *group* assignment; students wishing to receive 9-10 ECTS undertake the simulation paper and presentation as an *individual* assignment. Please inform the instructor how many ECTS you wish to receive by 09 Nov. 2023 before undertaking the simulation assignment.

Requirements	Weight
Fulfill tasks and tests on Moodle	20%
(Individual) actor paper	20%
(Individual) actor paper presentation	10%
(Group) simulation paper	35%
(Group) simulation paper presentation	15%

Course Overview¹

Module #	Date & Time	Торіс	Learning goals students	Homework (in advance of the class meetings) & Activities
1	19 Oct. 2023, 8:30- 10:00h, 3.06. S19	Course Overview	Understand the goals and topic of the course	Read detailed syllabus & admission policy Students prepare questions related to the course
2	26 Oct. 2023, 8:30- 10:00h, 3.06. S19	The Predictioneer's Game: Logic & Overview	Basic understanding of overall functions and functioning of the Predictioneer's Game	Familiarize yourself with Moodle Watch a set of videos by Bruce Bueno de Mesquita (BdM) Readings according to syllabus
3	26 Oct. 2023, 10:20- 11:50h, 3.06. S19	The Predictioneer's Game: Input Data	Detailed understanding of the input data (conceptual) Corona pandemic policy decision as conceptual example	Watch a set of videos by BdM Readings according to syllabus
4	02 Nov. 2023, 10:20- 11:50h, 3.06. S19	The Predictioneer's Game: Output Data	Detailed understanding of the output files (conceptual) Interpreting outputs Learn veto rule	Watch a set of videos by BdM Readings according to syllabus Read centrally provided output files
5	02 Nov. 2023, 18:00- 20:00h, 3.06. HS 2 (reception to follow)	Guest Lecture: Dr. Artur Runge- Metzger (formerly European Commission): Integrating Carbon Dioxide Removals into EU Climate Policy		Readings according to syllabus

 $^{^1}$ The schedule is indicative and subject to short-term changes. Check the course site on $\rightarrow Moodle$ for updates and announcements.

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Modeling Political Decisions for Sustainabi	lity (Syllabus)

6A	09 Nov. 2023, 9:00-	Q&A on the Predictioneer's		Post your advance questions to the
	9:30h, 3.06. S19	Game (Modules 2-		forum on \rightarrow Moodle
6B	09 Nov. 2023, 9:30- 10:00h, 3.06, S19	Quiz		Bring proper digital devices with you and arrive early
7	09 Nov. 2023, 10:20- 11:50h, 3.06. S19	Guest Lecture: Dr. Felix Schenuit (SWP, German Institute for International and Security Affairs): Carbon Dioxide Removal Policy in the Making: Key Actors and Policy Processes in the EU		Readings according to syllabus Sign-Up for Assignment #1 (Actor Paper and Presentation) beginning 09 Nov. 2023
optional	15 Nov. 2023, 13:00- 18:00h, German Foreign Office, Berlin	Briefing on the 28 th Conference of the Parties of the UN Framework Convention on Climate Change		Register individually
8	23 Nov. 2023, 8:30- 10:00h, 3.06. S18! (postpone to this new date)	The Predictioneer's Game: Running the Software	Get Predictioneer's Game running	Install Predictioneer's Game prior to class Submit Predictioneer's Game input file to →Moodle Readings according to syllabus
9	16 Nov. 2023, 10:20- 11:50h, 3.06. S19	Guest Lecture: Dr. Joachim Hein (BDI – Confederation of German Industries): Carbon Dioxide Removal (CDR) Needed to Achieve Net Zero – (How) Can (Carbon) Markets Help to Boost CDR?		Readings according to syllabus
10	23 Nov	Guest Lecture: Mr		Readings

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Modeling Political Decisions	for Sustainability (Syllabus)

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		EU ETS? No thanks		
11	30 Nov. 2023, 8:30- 10:00h, 3.06. S19	Developing the Prediction Scales	Interactive development of the input scales, esp. position scale (& potential influence)	Readings according to syllabus Students submit initial ideas on the position & influence scales to →Moodle
12	30 Nov. 2023, 10:20- 11:50h, 3.06. S19	Guest Lecture: Dr. Simon Marr (BMWK, Federal Ministry for Economic Affairs and Climate Action): The Role of Carbon Removals in a Future EU Climate Policy		Readings according to syllabus Signup for Group Papers beginning 01 Dec. 2023 Sign-Up for Assignment #2 (Simulation Paper and Presentation)
13 & 14	07 Dec. 2023, 8:30- 11:50h, 3.06. S19	Presentations: Individual Actor Papers	Student Presentations	Submission of actor papers and presentation files to →Moodle by 06 Dec. 2023 (see Assignment #1 for details)
15	14 Dec. 2023, 10:20- 11:50h, location t.b.d.	Workshop: Q&A on Group Projects	Consultations by Simulation Group with the Instructor	Submit general and project- specific questions →Moodle
optional	18 Dec. 2023, 14:00- 16:00h, PIK, A31. Big Copula	Guest Lecture: Dr. Sabine Schulte- Beckhusen (ESTAINIUM Association e.V. / WTS Legal): Who owns the CO2? Reflections on the Regulatory Framework for Decarbonization		
16 & 17	21 Dec. 2023, 8:30- 11:00h, location t.b.d.	Presentations: Individual & Group Predictions	Student Presentations	Submission of presentation files to →Moodle (see Assignment #2 for details)
18	21 Dec. 2023, 11:15- 12:00h, location	Course Review		

t.b.d.		
18 Jan. 2024		Assignment #2
		Papers Due (see
		Assignment #2 for
		details)

Additional modules may be scheduled at the discretion of the instructor. Please check announcements on \rightarrow Moodle for updates.

Textbook & Readings

Bueno de Mesquita, Bruce. 2009. *The Predictioneer's Game: Using the Logic of Brazen Self-Interest to See and Shape the Future*. New York: Random House.

All other readings can be found on \rightarrow *Moodle*.

Assignments

All Assignments

Assignments will be posted to $\rightarrow Moodle$ well ahead of the deadline. Submission deadlines are indicated in the $\rightarrow Assignments$.

Read the instructions carefully! All papers include your student ID number(s), assignment number (see overview), and word count on the first page. At a minimum, leave one inch margins from all four edges of A4-sized sheets. Footnotes shall be kept to a minimum. All text is 1.5-spaced, 11-12 point font (except for tables and graphs due to formatting). Paper length will be strictly enforced (the word count includes literally everything – no exceptions; the academic integrity form is not included in the word count). Papers shall be submitted – both in Word (check your word count!) **and** PDF format – via \rightarrow *Moodle* by the due date and time (\rightarrow *Assignment*). Extensions will be granted only under extraordinary circumstances, following written petition to the instructor.

In case of group assignments, all author ID numbers have to be listed, including a short description who contributed what.

In case you cannot submit assignments due to medical reasons, you must submit a medical doctor's certificate to the instructor.

The allocation of individual students to actor papers and to simulation groups is at the discretion of the instructor.

Assignments will be posted to \rightarrow *Moodle* and are outlined below.

Actor and Simulation Papers & Presentations

Actor papers will be up to 1,250 words in length, simulation papers will be up to 2,000 words in length per group member (for 9-10 ECTS: individual assignment with a maximum of 4,000 words). Details on the paper format and the submission procedure will be provided in the formal assignments. All papers and presentation files are due the day prior to the presentation + Q&A session in class. Papers and presentation files are submitted via \rightarrow Moodle. Papers have to include student IDs and a brief description who did what (the latter refers to group papers only), the topic, and the word count on the cover page.

We will elaborate the relevant position scale for the prediction paper (Assignment #2) in class (Module 9), using working groups.

For the actor papers, please provide a brief historical overview of the actor, its central positions over time on the particular issue under investigation, and score the actor with respect to influence, position, salience, flexibility, veto status (as introduced in Modules 2-4). Each of these scores has to be justified and sources fully referenced. Your presentations will be subject to Q&A by your peers (Modules 11-12).

For the simulation paper, you will have to determine which actors to include (beyond the actors already covered by actor papers), potentially revise the scores offered in individual actor papers, and devise a strategy for employing the Predictioneer's Game, including robustness checks (variations of the input structure, e.g., on parameters where point values cannot be reliably ascertained). Please appendix the input file(s) for the simulations as .txt file(s) and provide full references for all sources. The simulation papers will be subject to Q&A by your peers (Module 14-15).

Modules

Module 1: Course Overview

Course Overview

Module 2: The Predictioneer's Game: Logic & Overview

Bueno de Mesquita, Bruce. 2009. *The Predictioneer's Game: Using the Logic of Brazen Self-Interest to See and Shape the Future.* New York: Random House, ch. 3

Bueno de Mesquita, Bruce. 2010. Judging Judgment. *Critical Review* 22 (4):355-388. doi: 10.1080/08913811.2010.541686

 Sprinz, Detlef F., Bruce Bueno de Mesquita, Steffen Kallbekken, Frans Stokman, Håkon Sælen, and Robert Thomson. 2016. Predicting Paris: Multi-Method Approaches to Forecast the Outcomes of Global Climate Negotiations. *Politics and Governance* 4 (3):172-187. doi: 10.17645/pag.v4i3.654

Watch instructional video clips on \rightarrow Moodle

Module 3: The Predictioneer's Game: Input Data

Bueno de Mesquita, Bruce. 2009. *The Predictioneer's Game: Using the Logic of Brazen Self-Interest to See and Shape the Future.* New York: Random House, ch. 4

Bueno de Mesquita, Bruce. 2011. A New Model for Predicting Policy Choices. Conflict Management and Peace Science 28 (1):65-87. doi: 10.1177/0738894210388127

Watch instructional video clips on \rightarrow Moodle

Module 4: The Predictioneer's Game: Output Data

Sprinz, Detlef F., and Bruce Bueno de Mesquita. 2015. Predicting Paris: Forecasting the Outcomes of UNFCCC COP-21 With the Predictioneer's Game. Potsdam and New York City: PIK - Potsdam Institute for Climate Impact Research and New York University, doi: 10.13140/RG.2.1.3722.1840

Read output files for Module 4 (\rightarrow Moodle). Watch instructional video clips on \rightarrow Moodle

Module 5: Guest Lecture: Dr. Artur Runge-Metzger (Mercator Research Institute on Global Commons and Climate Change, formerly

European Commission): Integrating Carbon Dioxide Removals Into EU Climate Policy: Challenges and Governance Options

Smith, S. M., et al. 2023. *The State of Carbon Dioxide Removal - 1st Edition*. Oxford: University of Oxford, 8-13, browse the remainder. https://www.stateofcdr.org

Edenhofer, Ottmar, et al. 2023. On the Governance of Carbon Dioxide Removal – A Public Economics Perspective. CESifo Working Paper No. 10370. Munich: Munich Society for the Promotion of Economic Research - CESifo GmbH, esp. Section 5. https://www.cesifo.org/DocDL/cesifo1_wp10370.pdf

Module 6a: Q&A on the Predictioneer's Game (Modules 2-4)

Post your advance questions to the forum on \rightarrow Moodle.

Module 6B: Quiz (covering Modules 2-4)

In-Class Quiz

Note: Please bring a laptop or similar device with you for the in-class test. The electronic quiz on the Predictioneer's Game in Module 6B can only be accessed after having watched *all* audio and video files provided in preparation of Modules 2- 4. Please be aware and prepare accordingly in order to avoid any technical issues when the quiz is taken during our session.

Module 7: Guest Lecture: Dr. Felix Schenuit (SWP, German Institute for International and Security Affairs): Carbon Dioxide Removal Policy in the Making: Key Actors and Policy Processes in the EU

- Schenuit, Felix, and Oliver Geden. 2023. Chapter 22: Carbon Dioxide Removal: Climbing Up the EU Climate Policy Agenda. In Tim Rayner et al. (eds.). Handbook on European Union Climate Change Policy and Politics. Cheltenham: Edward Elgar Publishing, 322-336. https://doi.org/10.4337/9781789906981
- Rickels, Wilfried, et al. 2022. Procure, Bank, Release: Carbon Removal Certificate Reserves to Manage Carbon Prices on the Path to Net-Zero. *Energy Research & Social Science*, 94, 102858. https://doi.org/https://doi.org/10.1016/j.erss.2022.102858
- Netherlands, Norway, Denmark, & Sweden. (n.d.). Non-Paper on Carbon Capture and Storage.

- Danish Ministry of Climate, Energy and Utilities. 2022. Denmark's Position Paper on an Ambitious EU 2040 Climate Target and a Cost-Effective EU Climate Architecture – A Response to the Public Consultation on the European Commission's 2040 Climate Target https://www.ft.dk/samling/20222/almdel/EUU/bilag/623/2733409
 - https://www.ft.dk/samling/20222/almdel/EUU/bilag/623/2733409 /index.htm
- Boettcher, Miranda., Felix Schenuit, and Oliver Geden. 2023. The Formative Phase of German Carbon Dioxide Removal Policy: Positioning Between Precaution, Pragmatism and Innovation. *Energy Research & Social Science*, *98*, 103018.

https://doi.org/https://doi.org/10.1016/j.erss.2023.103018

Module 8: The Predictioneer's Game: Running the Software

Purchase or get assigned a license, download and install the Predictioneer's Game. Install and read all information, incl. "Excel Tools," "Sample Test Sets," "User Guide,", FAQ, and the EULA The Dean's Office has agreed to the purchase of a limited number of licenses that will be shared among students.

https://www.ft.dk/samling/20201/almdel/KEF/bilag/87/2288136.p df

Prepare an input file for the Predictioneer's Game based on Bueno de Mesquita, Bruce. 2009. The Predictioneer's Game: Using the Logic of Brazen Self-Interest to See and Shape the Future. New York: Random House, 217 and upload it to →Moodle.

Read

Bueno de Mesquita, Bruce. n.d. The Predictioneer's Game© Basic Software Training Manual. Retrieved from The Predictioneer's Game (Software) Guide to Downloading and Running the Predictioneer's Software →Moodle Guide to Organize the Excel Spreadsheets →Moodle

Module 9: Guest Lecture: Dr. Joachim Hein (BDI – Federation of German Industries): Carbon Dioxide Removal (CDR) Needed to Achieve Net Zero – (How) Can (Carbon) Markets Help to Boost CDR?

- Rickels, Wilfried et al. 2020. The Future of (Negative) Emissions Trading in the European Union. Kiel Working Paper, No. 2164. https://www.econstor.eu/bitstream/10419/224064/1/1729201571. pdf
- Wähling, Lara-Sophie et al. 2023. The Sequence Matters: Expert Opinions on Policy Mechanisms for Bioenergy with Carbon Capture and Storage. Energy Research & Social Science, 103, 103215. https://doi.org/10.1016/j.erss.2023.103215
- European Chemical Industry Council. 2020. Cefic Position on the European Climate Law. Brussels: European Chemical Industry Council. https://cefic.org/app/uploads/2020/05/Cefic-position-on-the-Commission-proposal-for-a-European-Climate-Law-FINAL.pdf
- European Lime Association. n.d.. A Pathway to Negative CO2 Emissions by 2050. Brussels: European Lime Association. https://eula.eu/wp-content/uploads/2023/09/WEB_EULA-2030-Climate-Roadmap_Lime-Acts_A4_v19.pdf
- Heidelberg Materials. n.d. Energy and Climate Protection. https://www.heidelbergmaterials.com/en/energy-and-climateprotection

Module 10: Guest Lecture: Mr. Wijnand Stoefs (Carbon Market Watch): CDR in EU ETS? No thanks...

Carbon Market Watch. 2021. Respecting the Laws of Physics - Principles of Carbon Dioxide Accounting. Brussels: Carbon Market Watch. https://carbonmarketwatch.org/publications/respecting-the-laws-ofphysics-principles-for-carbon-dioxide-removal-accounting/

McLaren, Duncan P. et al. 2019. Beyond "Net-Zero": A Case for Separate Targets for Emissions Reduction and Negative Emissions [Policy Brief]. Frontiers in Climate, 1. https://doi.org/10.3389/fclim.2019.00004

Frank, Sabine. 2023. Why Carbon Removals Do Not Belong in Carbon Markets. Brussels: Carbon Market Watch. https://carbonmarketwatch.org/2023/10/04/why-carbon-removalsdo-not-belong-in-carbon-markets

Module 11: Developing the Prediction Scales

Students submit initial ideas on the position & influence scales to \rightarrow Moodle.

Bueno de Mesquita, Bruce. 2009. *The Predictioneer's Game: Using the Logic of Brazen Self-Interest to See and Shape the Future.* New York: Random House, ch. 5.

Watch instructional video clips on \rightarrow Moodle

Module 12: Guest Lecture: Dr. Simon Marr (BMWK, Federal Ministry for Economic Affairs and Climate Action): The Role of Carbon Removals in a Future EU Climate Policy

Meyer-Ohlendorf, Nils. 2023. Making Carbon Removals a Real Climate Solution - How to integrate carbon removals into EU Climate Policies. Berlin: Ecologic Institute. https://www.ecologic.eu/19290

Rickels, Wilfried, et al. 2021. Integrating Carbon Dioxide Removal Into European Emissions Trading [Policy and Practice Reviews]. *Frontiers in Climate* 3. https://doi.org/10.3389/fclim.2021.690023

Jörß, Wolfram et al. 2022. Challenges for the Accounting of Emerging Negative and Zero/Low Emission Technologies. Working Paper 3/2022, Freiburg i.B.: Oeko-Institut e.V., 34-39.

www.oeko.de/fileadmin/oekodoc/WP-NET-accounting.pdf van den Plan, Sam. 2023. *The 2040 Homestretch - Enhancing EU Climate*

Action Before and After 2023 - The Role of the EU ETS and Carbon Removals. n.p.: Carbon Market Watch

https://carbonmarketwatch.org/publications/the-2040-homestretchenhancing-eu-climate-action-before-and-after-2030-the-role-of-theeu-ets-and-carbon-removals/

Modules 13 & 14: Presentations: Individual Actor Papers

Presentations: Individual Actor Papers

Please read all presentation files on \rightarrow Moodle.

Module 15: Workshop: Q&A on Group Projects

Details to be announced on \rightarrow Moodle

Modules 16 & 17: Presentations: Individual & Group Prediction Papers

Presentation: Group or Individual Prediction Papers

Please read all presentation file on \rightarrow Moodle.

Module 18: Course Review