



Course and Examination Fact Sheet: Spring Semester 2021

8,356: The Data Science of International Law

ECTS credits: 4

Overview examination/s

(binding regulations see below)

Decentral - examination paper written at home (individual) (20%)

Examination time: term time

Decentral - Presentation (in groups - all given the same grades) (20%)

Examination time: term time

Decentral - Group examination paper (all given the same grades) (60%)

Examination time: term time

Attached courses

Timetable -- Language -- Lecturer

[8,356,1.00 The Data Science of International Law](#) -- Englisch -- [Alschner Wolfgang](#)

Course information

Course prerequisites

Previous training in quantitative methods and/or programming experience is an asset, but not a prerequisite. Participants should, however, be willing to invest the necessary time and effort to acquire basic programming skills during the course. A solid interest as well as basic knowledge in international institutions are needed.

Learning objectives

By the end of this course students will:

- be familiar with state-of-the-art data science methods and techniques,
- understand how data science changes and enhances the study of international institutions,
- possess basic programming skills in R,
- be able to autonomously apply data science skills to investigate international institutions,
- possess an in-depth understanding of research and datasets in computational analyses of international institutions.

Course content

This course investigates international institutions through the lens of data science and provides participants with a data science skill set to study international relations, international law and international organizations. The course consists of a general introduction to the study of international institutions through the lens of data science followed by three thematic modules:

1. International Organizations and the Science of Natural Language Processing
2. International Treaties and the Science of Similarity
3. International Courts and Tribunals and the Science of Networks

As part of each module, the course will review existing research on international institutions to highlight gaps that a data science approach can fill. Each module will also introduce a data science approach for the study of international institutions, such as Natural Language Processing, which treats text as data, and will equip students with the necessary understanding and programming skills to apply such an approach autonomously on curated datasets and text corpora.

Course structure



The course will be conducted as intensive seminar over five consecutive days. Prior to the workshop, students will choose a research topic and will be divided into groups during a preparatory meeting in February 2021. The groups will present their preliminary research on the final day of the class and will submit a research paper 2 weeks after the workshop.

Day 1:

- Introduction to Data Science for the Study of International Institutions.
- Introduction to Programming in R.

Day 2:

- The Study of International Organizations over Long Time Horizons.
- Treating Text as Data: Science of Natural Language Processing.
- Programming: Regular Expression & Topic Modelling.

Day 3:

- The Study of International Treaties: Consistency and Innovation.
- When States Copy-and-Past: Science of Similarity
- Programming: Distance Measures, Heat maps and Clustering.

Day 4 :

- International Courts and Tribunals: Tracking Precedent.
- Citation Networks: An Introduction to Network Science
- Programming: Citation extractions, Link Lists, Network Graphs and Network Measures.

Day 5:

- Group Presentations
- Wrap-up: The Data Science of International Institutions as New Frontier.

Course literature

Below are introductory materials. Additional literature will be provided during the preparatory meeting in February 2021.

Alschner, Wolfgang: "The Computational Analysis of International Law" in Rossana Deplano and Nicholas Tsagourias (eds), *Research Methods in International Law: A Handbook* (forthcoming 2021). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3428762

Alschner, Wolfgang, Joost Pauwelyn, and Sergio Puig. "The Data-Driven Future of International Economic Law." *Journal of International Economic Law* 20, no. 2 (June 1, 2017): 217-31.

Šadl, Urška, and Henrik Palmer Olsen. "Can Quantitative Methods Complement Doctrinal Legal Studies? Using Citation Network and Corpus Linguistic Analysis to Understand International Courts." *Leiden Journal of International Law* 30, no. 2 (June 2017): 327-49.

Data Science For Lawyers (<https://www.datascienceforlawyers.org>)

Additional course information

In the case of the President's Board having to implement new directives due to the SARS-CoV-2 pandemic in SpS2021, the course information listed above will be changed as follows:

- The course is conducted online via the platform zoom;
- The recordings of the course are permanently available.
- There are no changes necessary to the course information.

The examination information listed below would be changed as follows:

- The presentation are conducted online and are being recorded.



Examination information

Examination sub part/s

1. Examination sub part (1/3)

Examination time and form

Decentral - examination paper written at home (individual) (20%)

Examination time: term time

Remark

Reaction paper submitted prior to the Workshop

Examination-aid rule

Term papers

Term papers must be written without anyone else's help and in accordance with the known quotation standards, and they must contain a declaration of authorship which is a published template in StudentWeb.

The documentation of sources (quotations, bibliography) has to be done throughout and consistently in accordance with the chosen citation standard such as APA or MLA.

For papers in law, the legal standard is recommended (by way of example, cf. FORSTMOSER, P., OGOREK R. et SCHINDLER B., Juristisches Arbeiten: Eine Anleitung für Studierende, newest edition respectively, or according to the recommendations of the Law School).

The indications of the sources of information taken over verbatim or in paraphrase (quotations) must be integrated into texts in accordance with the precepts of the applicable quotation standard, while informative and bibliographical notes must be added as footnotes (recommendations and standards can be found, for example, in METZGER, C., Lern- und Arbeitsstrategien, newest edition respectively).

For any work written at the HSG, the indication of the page numbers is mandatory independent of the chosen citation standard. Where there are no page numbers in sources, precise references must be provided in a different way: titles of chapters or sections, section numbers, acts, scenes, verses, etc.

Supplementary aids

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Examination languages

Question language: English

Answer language: English

2. Examination sub part (2/3)

Examination time and form

Decentral - Presentation (in groups - all given the same grades) (20%)

Examination time: term time

Remark

Presentation with hand-out

Examination-aid rule

Presentations

In presentations, aids for visual presentation can be used. These aids can be specified or restricted by the lecturers.

Supplementary aids

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Examination languages

Question language: English



Answer language: English

3. Examination sub part (3/3)

Examination time and form

Decentral - Group examination paper (all given the same grades) (60%)

Examination time: term time

Remark

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Examination-aid rule

Term papers

Term papers must be written without anyone else's help and in accordance with the known quotation standards, and they must contain a declaration of authorship which is a published template in StudentWeb.

The documentation of sources (quotations, bibliography) has to be done throughout and consistently in accordance with the chosen citation standard such as APA or MLA.

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Supplementary aids

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Examination languages

Question language: English

Answer language: English

Examination content

Students are expected to make the following contributions:

1. They come to class prepared having completed the core readings and having submitted a reflection paper (20%) to demonstrate their critical engagement with data science as a research methodology to study international law and governance.
2. They actively participate in a group research project to apply the data science skills acquired to study an area of international law and governance in-depth and present their analysis in an in-class presentation with hand-out (20%) and a research paper (60%).

Examination relevant literature

There is no required textbook. A list of recommended readings will be provided prior to the course.



Please note

Please note that only this fact sheet and the examination schedule published at the time of bidding are binding and takes precedence over other information, such as information on StudyNet (Canvas), on lecturers' websites and information in lectures etc.

Any references and links to third-party content within the fact sheet are only of a supplementary, informative nature and lie outside the area of responsibility of the University of St.Gallen.

Documents and materials are only relevant for central examinations if they are available by the end of the lecture period (CW21) at the latest. In the case of centrally organised mid-term examinations, the documents and materials up to CW 12 are relevant for testing.

Binding nature of the fact sheets:

- Course information as well as examination date (organised centrally/decentrally) and form of examination: from bidding start in CW 04 (Thursday, 28 January 2021);
- Examination information (regulations on aids, examination contents, examination literature) for decentralised examinations: in CW 12 (Monday, 22 March 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised mid-term examinations: in CW 12 (Monday, 22 March 2021);
- Examination information (regulations on aids, examination contents, examination literature) for centrally organised examinations: two weeks before the end of the registration period in CW 14 (Thursday, 8 April 2021).