

Syllabus

Introduction to official statistics - a reflective approach

1 credit / 2 ECTS

Anna-Carolina Haensch (available via Canvas forum)

Video lecture by
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September 6 – October 25, 2021

Short Course Description

Students will be familiarised with the DNA of official statistics, what quality means, how to achieve it, especially under the challenges of modern societies. In times of data revolution, artificial intelligence and a ubiquitous flood of permanently produced and consumed information, orientation and differentiation of good and less good information, of fact-checks, and of verification of statistical evidence is crucial. The public infrastructure called 'official statistics' plays an essential role in this respect.

Course Objectives

By the end of the course, students will...

- know the production process of official statistics as well as the institutional set-up of European statistics
- know the types of products and services provided by official statistics, including their respective quality profiles
- know the quality management of official statistics and understand how (civil) society participates in the making of statistics
- understand the opportunities offered by new data sources as well as their risks; know the main principles for modern public statistics
- be able to apply the knowledge to the design of evidence for decision making in more complex situations

Prerequisites

No prerequisites

Class Structure and Course Concept

This is an online self-paced course. It covers the same material and content as an on-site course but runs differently. In this course, you are responsible for watching video-recorded lectures and reading the required literature for each unit and doing the quizzes (graded). We offer a discussion forum for each unit

where students have the chance to discuss the materials from a unit with the fellow students and the tutor of the course.

Although this is an online course where students have more freedom in when they engage with the course materials, students are expected to spend the same amount of time overall on all activities in the course – including preparatory activities (readings, studying), in-class-activities (watching prerecorded videos, attending the live online meetings), and follow-up activities (working on assignments and exams) – as in an on-site course. As a rule of thumb you can expect to spend approximately 3h/week on in-class-activities and 9 hours per week on out-of-class activities (preparing for class, readings, assignments, projects, studying for quizzes and exams). Therefore, the workload in all courses will be approximately 12h/week. This is a 1-credit/2 ECTS course that runs for 4 weeks. Please note that the actual workload will depend on your personal knowledge.

Grading

Grading (Pass or fail) will be based on:

- 4 online quizzes (worth 100% total)

Dates of when assignment will be due are indicated in the syllabus.

Technical Equipment Needs

Mannheim Business School would also like to officially inform you that, in order to facilitate your participation in this course, your personal data will be processed by and on systems run by MBS and our subcontractors. You can find detailed information in our privacy policy and information for data subjects [here](#).

Long Course Description

The aim of the course is to introduce students to official statistics as a process in which the design, production and communication of information (statistics) are an integral part. As with other products (architecture, furniture, food, cars, smartphones, etc.), the aim is to optimise the design (form) in relation to the use (function) of the products (“form follows function”). In this respect it is about more than just the application of statistical methods. Rather, the focus must be on the questions that a society wants to have answered with solid statistics for its current, pressing and conflict-laden issues.

Seldom has the importance and urgency of the quality of statistics for public debate, decision-making and the acceptance of decisions and, generally, the functioning of a democratic society been as clear as in the Covid-19 pandemic crisis situation.

Students will learn that a piece of information is factual and further what this finding means through the process of development. An (arte-)fact is developed, as the result of interactions between the statistical and the social system. Its quality and its meaning depend on the functionality it enables in the social system (i.e. for the users and uses of statistics). As a principle this translates into: "Quality is fitness for purpose".

Some quite fundamental questions will have to be asked, discussed and answered in the course: What are facts (also including related terms, such as data, information, evidence)? How can facts be

produced with high quality? What is the role of official statistics as part of public administration? Is this role being changed due to new constraints and challenges in the era of digitisation and globalisation? How can civil society's role be strengthened and deepened in all processes of statistical production? Which adaptations of statistical governance are needed in order to preserve and protect the functioning of official statistics in the new informational (and political) ecosystem?

Readings

Primary readings will be from the following volume(s):

Radermacher, W. (2020): Official Statistics 4.0 - Verified Facts for People in the 21st Century (Springer Nature Switzerland AG; imprint Springer: Heidelberg) <https://doi.org/10.1007/978-3-030-31492-7>

This publication is based on the thesis of the same title, which can be accessed here: https://iris.uniroma1.it/retrieve/handle/11573/1237923/1032618/Tesi_dottorato_Radermacher.pdf

List of **required and recommended readings** for each class are provided below for each specific unit.

Academic Conduct

Clear definitions of the forms of academic misconduct, including cheating and plagiarism, as well as information about disciplinary sanctions for academic misconduct may be found at

<https://www.president.umd.edu/sites/president.umd.edu/files/documents/policies/III-100A.pdf> (University of Maryland) and

<https://www.uni-mannheim.de/en/research/good-research-practice/> (University of Mannheim).

Knowledge of these rules is the responsibility of the student and ignorance of them does not excuse misconduct. The student is expected to be familiar with these guidelines before submitting any written work or taking any exams in this course. Lack of familiarity with these rules in no way constitutes an excuse for acts of misconduct. Charges of plagiarism and other forms of academic misconduct will be dealt with very seriously and may result in oral or written reprimands, a lower or failing grade on the assignment, a lower or failing grade for the course, suspension, and/or, in some cases, expulsion from the university.

Accommodations for Students with Disabilities

In order to receive services, students at the University of Maryland must contact the Accessibility & Disability Service (ADS) office to register in person for services. Please call the office to set up an appointment to register with an ADS counselor. Contact the ADS office at 301.314.7682; <https://www.counseling.umd.edu/ads/>.

Students at the Mannheim Business School should contact the Commissioner and Counsellor for Disabled Students and Students with Chronic Illnesses at http://www.uni-mannheim.de/studienbueros/english/counselling/disabled_persons_and_persons_with_chronic_illnesses/

Course Evaluation

In an effort to improve the learning experience for students in our online courses, students will be invited to participate in an online course evaluation at the end of the course (in addition to the standard university evaluation survey). Participation is entirely voluntary and highly appreciated.

Sessions

Please note that assignments and dates are subject to change. Information (e.g., articles and assignments) posted to the course website supersedes the information noted here.

Unit 1: The Art of Statistics

Video lecture: available 6th, Sep, 2021

Online quiz unit 1: due 25th, Oct, 2021, 17:59/PM EDT/23:59 /PM CEST

Required Readings:

- Radermacher (2020): Chapter 1 Introduction, Chapter 3.1 – 3.3 Science and Society
- Anderson, D., Sweeney, D. and Williams, T. (2020): Statistics. <https://www.britannica.com/science/statistics>.
- Davies, W. (2017): How statistics lost their power – and why we should fear what comes next, The Guardian. <https://www.theguardian.com/politics/2017/jan/19/crisis-of-statistics-big-data-democracy>
- Porter, T. (2020). Probability and statistics. <https://www.britannica.com/science/probability>.

Recommended Readings:

- Vaishnavi, V., Kuechler, B. and Petter, S. (2004): Design science research in information systems. In Association for Information Systems. <http://www.desrist.org/design-research-in-information-systems>

Week 2: Official statistics. The Making of

Video lecture: available 6th, Sep, 2021

Online quiz unit 2: due 25th, Oct, 2021, 17:59/PM EDT/23:59 /PM CEST

Required Readings:

- Radermacher (2020): Chapter 2 Official Statistics
- Eurostat (2018): European Statistics Code of Practice, Eurostat, Accessed 25.01.2018. <http://ec.europa.eu/eurostat/web/quality/european-statistics-code-of-practice>

Recommended Readings:

- Eurostat (2018): Quality Assurance Framework of the European Statistical System, Eurostat. <http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646>

Week 3: The Era of Digitalisierung and Globalisation

Video lecture: available 6th, Sep, 2021

Online quiz unit 3: due 25th, Oct, 2021, 17:59/PM EDT/23:59 /PM CEST

Required Readings:

- Radermacher (2020): Chapter 4 Official Statistics 4.0
- Radermacher, W. (2019): Governing-by-the-numbers - Reflections on the future of official statistics in a digital and globalised society, Statistical Journal of the IAOS, 35: pp. 519-537. <https://content.iospress.com/download/statistical-journal-of-the-iaos/sji190562?id=statistical-journal-of-the-iaos%2Fsji190562>

Recommended Readings:

- Davies, W. (2017): How statistics lost their power – and why we should fear what comes next, The Guardian. <https://www.theguardian.com/politics/2017/jan/19/crisis-of-statistics-big-data-democracy>
- Ricciato, F., Wirthmann, A., Giannakouris, K., Reis, F. and Skaliotis, M. (2019): Trusted smart statistics: Motivations and principles, Statistical Journal of the IAOS, 35: pp. 589-603. <https://content.iospress.com/articles/statistical-journal-of-the-iaos/sji190584>
- Wirthmann, A. (2019): EMOS-Webinar <https://emos2020events.ec.unipi.it/what-is-a-trusted-smart-statistics/>

Week 4:

Video lecture: available 6th, Sep, 2021

Online quiz unit 4: due 25th, Oct, 2021, 17:59/PM EDT/23:59 /PM CEST

Required Readings:

- Radermacher (2020): Chapter 3.4, 3.5 Indicators, Sustainable Development
- Radermacher, W. (2020): How Statistics Can Help — Going Beyond COVID-19. In Data & Policy. Medium <https://medium.com/data-policy/how-statistics-can-help-going-beyond-covid-19-22bb2ce92440>

- United Nations (2016): Sustainable Development Goals. <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>
- United Nations (2018): Sustainable Development Goal indicators website, United Nations, Accessed 17. 08. 2018. <https://unstats.un.org/sdgs/>

Recommended Readings (optional):

- The European Environment Agency (2019). Knowledge for a Sustainable XXI Century. Workshop by the EEA and its Scientific Committee. EEA. Brussels, EEA.. <https://www.eea.europa.eu/about-us/who/eeacademy/knowledge-for-a-sustainable-xxi-century>
- De Smedt, M., Giovannini, E. and Radermacher, W. (2018): Measuring sustainability. In Stiglitz, J., Fitoussi, J.-P. and Durand, M. (Eds.): For Good Measure: Advancing Research on Well-being Metrics Beyond GDP (OECD Publishing: Paris), pp. 241-281 https://www.oecd-ilibrary.org/economics/for-good-measure_9789264307278-en
- Radermacher, W. (2020): How Statistics Can Help — Going Beyond COVID-19. In Data & Policy. Medium <https://medium.com/data-policy/how-statistics-can-help-going-beyond-covid-19-22bb2ce92440>