Erasmus School of Law

Block 3 Governance and Regulation of Digital Technology

RT08

Syllabus 2023-2024

Erasmus University Rotterdam
Make it happen.

Table of Contents

1. Introduction

This course is about the governance and regulation of digital technology. Digital technology is a broad concept, we will not cover all digital technologies that are available or upcoming. A selection is made. Examples of digital technologies that are considered in this course are: artificial intelligence and digital tools that are used in legal professions or that have legal relevance. Similarly, we will not be able to cover all legislation that may be relevant for digital technologies, again a selection is made.

In this course, two main questions related to governance of digital technology are addressed:

1) why should digital technology be regulated? and
2) how is digital technology regulated?

Both questions are approached from an analytical perspective. This means we do not assume that it is per se needed to regulate (new) technologies with specific regulations. The questions instigate a closer look at the challenges that are presented by certain digital technologies to society and to the existing legal framework. Several sub-questions can be raised: what are the challenges that a particular digital technology causes to society? And can these challenges be adequately addressed by existing law, or is specific legislation needed?

Law can both facilitate and regulate digital technologies. When we look at how technology is regulated, the analytical perspective entails that we asses if the relevant regulation can adequately address the challenges or problems that are caused by digital technologies. Can the regulation at hand -at least theoretically- live up to its aims? And: are there any follow up questions or new problems that arise because of the technology specific laws?

Governance and regulation of digital technology takes place on several levels. Global digital governance encompasses transnational and international (soft) law, rules, norms, institutions, and standards that shape the regulation related to the development and use of digital technologies. The legal framework that is considered in this course is international and (mainly) European. This course includes both public and private law perspectives.

Several topics that are relevant for the governance of digital technologies are expressly not covered in this course, because they are addressed in other courses of the Master program, this includes: ethics, fundamental rights, the protection of personal data, the legal status of non-personal data and data-security. These issues may at times be touched upon in this course, to indicate their relevance and their place in the bigger constellation that is relevant when considering governance and regulation of technology.

2. General Information

2.1 Lecturers

Lecturers will be:

Prof. Dr. Klaus Heine
Dr. Shu Li
Dr. Kees van Noortwijk

Coordinator: Dr. Martien Schaub
(schaub@law.eur.nl)

2.2 Course objectives

At the end of this course students:

a. have an analytical understanding of the theory on governance and regulation of digital technologies;
b. can apply their theoretical knowledge on governance and regulation to different types of digital technology;
c. have general knowledge of the legal framework that is relevant for AI and software tools;
d. are able to adopt an analytical attitude regarding the materials and legal framework that is taught in this course;
e. can discuss on an academic level with others concerning the subject matter of the course.

2.3 Participation requirements

To take part in this course students need to fulfill the requirements for access to the Master Rechtsgeleerdheid. In general, a Bachelor in law diploma is required.

2.4 Assessments and re-sit

The following assessments are administered in this course:

- Intermediary group assignments related to a case study consisting of a paper and a presentation (40%)
- Individual oral exam (60%)

The intermediate assignments and the oral exam must all be completed with a sufficient grade to pass the course. An insufficient grade for one part of the

assessment cannot be compensated with the other assignment or with the oral exam. The final grade (including the grades scored for the intermediary assignments) will be communicated at the end of the course. However, in case one of the intermediary assignments is not completed with a sufficient grade, you will be notified of this as soon as possible.

Assessment	Gewicht / weight
Case study (paper and presentation)	40% (20%+20%)
Oral exam (with open questions)	60%

About the **case study**:
The assignment is a group assignment and is graded per group, which means that each member of the group will get the same grade. You will be assigned to a group and each group will be given a different case. The paper and the presentation will each account for 20% of the grade. Students are required to analyze a specific digital application or topic, e.g. face recognition technology, predictive policing, autonomous vehicles, etc. and answer questions such as: what are the risks? What is the relevant legal framework? What is the liability for different actors when harm occurs? Are the current and proposed regulation and liability framework sufficient to deal with the risk and harm issues?

About the oral **exam**:
The oral exam is an individual exam. The duration of the exam is estimated to be 20 minutes (and at the most 30 minutes). During this time, you will be asked questions about the topics that were discussed during the lectures (supported by the reading materials that you studied for the lectures).

Re-sit
If you fail one or more parts of the course, you will be given the opportunity to do a re-sit for the part that you failed.

2.5 Communication

Language

The principal language that will be used in this course is English. If you feel you can express your thoughts or arguments better in Dutch during the discussions, this is allowed.

Information about the course and study

All course-related information can be found on Canvas. All relevant information about your study can be found in the MyESL app (downloadable in the Apple App Store en Google Play Store) or on MyEUR. So keep an eye on Canvas, the MyESL app (or MyEUR) and your student email for all the information about the course and your studies.

Course-related questions

Questions can be asked during lectures or in discussions on Canvas. We encourage students to answer each other's questions in the first place, as explaining something to someone else helps you to remember and understand the material.

For questions about this specific course, please contact Dr. M.Y. Schaub, mail: schaub@law.eur.nl

For organizational questions, please contact the master coordinator, Mrs. Joyce Janssen LLM via rechtentech@law.eur.nl | j.janssen@law.eur.nl.

Administrative questions / general questions about the study

Master support can be reached via mastersupportrt@law.eur.nl.

The ESL study point can help you with all administrative questions (for instance about the schedule, your registration or grades) and general questions about your study. You can also make an appointment with a study advisor at the ESL study point. You can also do this online via https://my.eur.nl/nl/esl/afspraak-inplannen-studieadviseurs.

Location	L1.04
Opening hours	Monday to Friday from 09.30 - 16.30
Telephone	010 - 408 15 60
Email	studiepuntesl@law.eur.nl

Problems with Canvas and/or viewing video's

If you experience any problems with Canvas and/or the playback of video material, please send an e-mail to: canvas@law.eur.nl

2.6 Mandatory and suggested literature

All literature for his course can be found on Canvas or will be communicated during the lectures.

2.7 Fraud and plagiarism

Avoid committing fraud and/or plagiarism. More information on the rules and penalties for committing fraud and/or plagiarism can be found here: https://my.eur.nl/nl/esl/fraude-en-plagiaat

3. Course activities

3.1 Weekly course schedule

	Date	Activity	Topic
Course meetings are scheduled for 4 hours, but the lectures will not be that long (usually max 2 hours). The extra time is meant for group work. Location: Polak 3-18.			
Week 1	08-01-24 13:15-16:45	Lecture 1 Prof. Dr. Klaus Heine	Innovation policy as a government task
	10-01-24 9:00-12:45	Lecture 2 Prof. Dr. Klaus Heine	Innovation policy by means of law and regulation
Week 2	15-01-24 13:15-16:45	Lecture 3 Prof. Dr. Klaus Heine	Law and regulation of digital technologies
	17-01-24 9:00-12:45	Lecture 4 Prof. Dr. Klaus Heine	Battle of ideas: What have we learned from the models? Student groups try to make substantiated arguments
	17-01-24	Publication case study	
Week 3	22-01-24 13:15-16:45	Lecture 5 Dr. Kees van Noortwijk	Software development cycles; Standard vs. tailor-made; contracts for development, maintenance and application
	24-01-24 9:00-12:45	Lecture 6 Dr. Kees van Noortwijk	Software as a Service; Internet service providers
Week 4	29-01-24 13:15-16:45	Lecture 7 Dr. Kees van Noortwijk	Legal protection of computer software; Copyright
	31-01-24 9:00-12:45	Lecture 8 Dr. Kees van Noortwijk	Open source software licenses; Patent law; Protection of databases
Week 5	05-02-24 13:15-16:45	Lecture 9 Dr. Shu Li	Product safety and product liability
	07-02-24 9:00-12:45	Lecture 10 Dr. Shu Li	The regulation of AI and new technologies
	07-02-24 23:59	Hand in written assignment	
Week 6	12-02-24 13:15-16:45	Lecture 11 Dr. Shu Li	The liability for AI and new technologies
	14-02-24 9:00-12:45	Lecture 12 All lecturers	Case study presentations followed by a festive lunch
Week 7	19-02-24	Exam	

3.2 Educational meetings

During the block, two interactive lectures will be organized each week. Attendance is compulsory. The course meetings are scheduled for 4 hours, however, the lectures will not last that long. The lecture will usually be 2 hours maximum. During the extra time, the room will remain available for the students to prepare for lectures and work on the group assignment. The last lecture (12 February 2024) will be dedicated to the case study presentations, followed by discussions. We will celebrate the completion of the course with a festive lunch.

3.3 Modules and reading materials

The course is divided in three modules:

Module 1 (week 1-2)- Governance of new technologies (Klaus Heine)
In the first module the general principles of governance and regulation of (emerging) technologies are addressed. With the rise of digitalization, AI and Big Data the general problems of technology regulation are either amplified or new problems appear, which cannot always be solved within the incumbent framework. Questions that are addressed are: why should we regulate new technology? Why are digital technologies a challenge for the incumbent legal framework? What digital governance models can be distinguished? The general framework applies to all kinds of (digital) technologies, we will further explore and illustrate the theoretical groundwork in the context of two particular topics in the next two modules.

Legal acts and reading materials:
A good textbook for the general foundation of innovation policy is:

- Scherer, F.M.; Ross, D. (1990), Industrial Market Structure and Economic Performance, Boston. It is an older book, but a good read and accessible for non-economic students. It gives a comprehensive account of innovation and technology. However, the digital challenges are not covered as an extra subchapter.

The following literature is drawn from the original literature, which is foundational to modern regulatory policy. The mathematical analyses are not necessary for a principal understanding of the analytical argument. More literature will be given in the lecture:

- Arrow, K.J. (1962), Economic Welfare and the Allocation of Resources for Inventions, in: Nelson, R.R. (ed.), The Rate and Direction of Inventive Activity: Economic and Social Factors, Princeton, 609-626. Available on Canvas.
- Baumann, F.; Heine, K. (2013), Innovation, tort law, and competition, in: Journal of Institutional and Theoretical Economics, Vol. 169(4), 703-719. Link.

- Dosi, G. (1982), Technological paradigms and technological trajectories: A suggested interpretation of the determinants and directions of technical change, in: Research Policy, Vol. 11 (3), 147–162. Link.
- Loury, G.C. (1979), Market Structure and Innovation, in: Quarterly Journal of Economics, Vol. 93(3), 395–410. Link.
- Mehra, S.K. (2016), Antitrust and the Robo-seller: Competition in the Time of Algorithms, in: Minnesota Law Review, Vol. 100, 1323-1375. Link.
- Petit, N. (2017), Antitrust and Artificial Intelligence: A Research Agenda, in: Journal of European Competition Law & Practice, Vol. 8 (6), 361-362. Link.
- Samuelson, P. A., & Nordhaus, W. D. (2010). Chapter 2: "The Modern Mixed Economy". In Microeconomics (19de editie, pp. 26–30). McGraw-Hill/Irwin. Available on Canvas.
- Viscusi, W.K.; Moore, MJ. (1993), Product Liability, Research and Development, and Innovation, in: Journal of Political Economy, Vol. 101(1), 161–184. Link.

Module 2 (week 3-4) - Development, application and protection of computer software (Kees van Noortwijk)

Computer software plays a central role in digital technologies. This module will consider legal issues related to the development as well as the application of software. In particular, contractual issues and intellectual property rights are discussed. For the development of software different types of contracts can be used, which can result, for example, in standard software or customized software products. The application of software commonly requires maintenance and updates which equally takes place in a contractual setting. Intellectual property and licensing are tools for the protection of computer software and data. An important issue in intellectual property is the need to balance public goods and the monopoly of the rights holder. Questions that come up in this context are: why is protection of intellectual property, for example via a patent or a copyright, needed and is it effective? What is the role of open-source licenses in the development of software? How can the interests involved be balanced?

Reading materials:
lecture 5 - Software development cycles; Standard vs. tailor-made; contracts for development, maintenance and application

- Gurung, G., Shah, R., & Jaiswal, D. P. (2020). Software Development Life Cycle Models-A Comparative Study. *International Journal of Scientific Research in Computer Science, Engineering and Information Technology*, March, 30-37. Link.
- S. van der Hof, A.R. Lodder & G.J. Zwenne, Recht en computer (Recht en Praktijk, nr. ICT4), Hoofdstuk 4: ICT-contracten, Deventer: Kluwer 2014, p 65-92. Available as an e-book via UB-EUR.

Lecture 6 - Software as a Service; Internet service providers

- Niva Elkin-Koren, After Twenty Years: Copyright Liability of Online Intermediaries in: Susy Frankel & Daniel J Gervais, Eds., *Equilibrium of Copyright in the Digital Age*, 2014. Link.

Lecture 7 - Legal protection of computer software; Copyright

- H. Struik, P.C. van Schelven & W.A.J. Hoorneman, *Softwarerecht. Bescherming en gebruik van computerprogrammatuur onder auteursrecht en octrooirecht* (Recht &Praktijk nr. ICT2), Hoofdstukken 2 (Programmatuur als object van bescherming), 4 (Makerschap) en 8 (Onderhoud van programmatuur), Deventer: Kluwer 2010, p. 23-66, 91-108 en 183-210. Available as an e-book via UB-EUR.

Lecture 8 - Open source software licenses; Patent law; Protection of databases

- M. Ballhausen, "Free and Open Source Software Licenses Explained," in Computer, vol. 52, no. 6, pp. 82-86, June 2019, doi: 10.1109/MC.2019.2907766. Link.
- H. Struik, P.C. van Schelven & W.A.J. Hoorneman, *Softwarerecht. Bescherming en gebruik van computerprogrammatuur onder auteursrecht en octrooirecht* (Recht &Praktijk nr. ICT2), Hoofdstuk III.1-III.3 (Software als object van octrooibescherming), Deventer: Kluwer 2010, p. 353-357. Available as an e-book via UB-EUR.
- Pellegrini, F. (2006), Analysis of software patentability in Europe. Link.

Module 3 (week 5-6) - Artificial Intelligence (Shu Li)

The third module uses AI as an example to highlight the principles of governance and regulation. Risks and harm are associated with the growing application of AI. The EU is currently taking action to adapt the liability framework and regulations to address the problems brought on by AI. In this module, first the current legal framework for product safety and liability will be reviewed. Then, the ideas for the ongoing proposals, such as AI Act, AI Liability Directive and Product Liability Directive, will be thoroughly introduced. Students are expected to apply the knowledge obtained in Module 1 to assess some of the most significant normative questions, such as: why do we need a risk-based approach to deal with the risk of AI? How should the liability be allocated among different actors along the supply chain?

Legal acts and reading materials:

Lecture 9 – Product safety and product liability

Legal acts

- General Product Safety Regulation (GPSR), available here.
- Product Liability Directive (PLD), available here.

Literature

- Duncan Fairgrieve, et al., 'Product Liability Directive' in Piotr Machnikowski (ed.), European Product Liability: An Analysis of the

State of Art in the Era of New Technologies (Intersentia, 2016), pp.17-108. Freely accessed by EUR here.

Lecture 10 – The regulation of AI and new technologies

Legal acts

- The Commission Proposal for AI Act (Draft AI Act), available here.

Literature

- Christiane Wendehorst, 'The Proposal for an Artificial Intelligence Act COM(2021) 206 from a Consumer Policy Perspective', 2021. Can be downloaded here
- Lilian Edwards, 'Regulating AI in Europe: four problems and four solutions', 2022, Ada Lovelace Institute, can be downloaded here.

Lecture 11 – The liability for AI and new technologies

Legal acts

- The Commission Proposal for revising the Product Liability Directive (reivsed PLD), available here.
- The Commission Proposal for AI Liability Directive (AILD), available here.

Literature

- Jan De Bruyne, Orian Dheu and Charlotte Ducuing, 'The European Commission's approach to extra-contractual liability and AI–An evaluation of the AI liability directive and the revised product liability directive', Computer Law & Security Review 51 (2023). Open access here.
- Gerald Wagner, 'Liability Rules for the Digital Age: – Aiming for the Brussels Effect', Journal of European Tort Law, 13(3) 2022, pp,191-243. Open access here.

3.4 Case study (group assignment)

The case study assignments are posted on Canvas in the second week of the course. You will be assigned to a group and each group will be assigned a different case. All members of the group will receive the same grade.

3.5 Exam

The course will be concluded with an oral exam on Monday 19 February 2024. Timetable and location of the exam will be published on Canvas. The intermediate assignments and the oral exam must all be completed with a sufficient grade to pass the course. An insufficient grade for one part of the assessment cannot be compensated with the other assignment or with the oral exam. The final grade (including the grades scored for the intermediary assignments) will be communicated at the end of the course. However, in case one of the intermediary assignments is not completed with a sufficient grade, you will be notified of this as soon as possible.