# Legal Methodology and Computer Science

## Prof. Giovanni Bombelli; Prof. Alessandro Dario Cortesi

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

The course aims to provide students with the fundamental tools of legal methodology in complex societies characterized by a growing interaction between law and technology and by the effects of this process on the conceptualization of the legal sphere. In this context, the "information technology" revolution, which has determined (and is determining) the transition from the industrial society to the "technological society" plays a particularly important role. The jurists’ activity is also consequently transformed: they now have to deal with problems originating from the use of information technology (information technology law), but at the same time have to use IT in their own daily activity (computer law).

The intended learning outcomes are the following.

a) *Knowledge and understanding*. Students will gain knowledge of the fundamental concepts and the main models concerning the methodology of law, with reference both to some "classic" conceptual approaches (including the related historical background) and to more purely theoretical-juridical profiles including some of their projections also in the jurisdictional context. This also refers, in particular, to some more recent perspectives that are circularly interconnected with the now pervasive nature of IT tools. Students will also acquire a level of knowledge of technical IT/telematic elements that allows a mature reflection on the main impacts of new technologies on the internal and international order.

b) *Ability to apply knowledge and understanding*. Students will develop the ability to reinterpret in a personal way the concepts and materials proposed and investigated during lectures, so as to correctly apply at a methodological level what they have learnt, especially in relation to unprecedented socio-legal contexts. The examination of the most recent case law approaches in the IT field will refine this ability and allow students to deal with the concrete application of the concepts studied.

c) *Independent judgment*. Students will be able to autonomously use a method and a variety in terms of lexicon and categories (including technical IT) that is functionally consistent with the correct approach of legal issues and themes, by highlighting their complexity. They will be able to elaborate hypotheses concerning the legal qualification of recently emerging IT phenomena.

d*) Communication skills.* Students will develop the ability to grasp and articulate the conceptual key elements underlying the methodology and legal IT, by making appropriate use of consistent and critical logical-argumentative modules.

e*) Learning ability.* Student will be able to problematize the notion of "method" within the legal context, with reference both to purely theoretical profiles (first of all the complexity of the notion of "method") and to some more delicate aspects related to the concrete articulation of the law (especially the jurisdictional area).

As regards the course aims and the intended outcomes described above, the course is divided into two modules:

– first module: legal methodology;

– second module: legal IT.

The sections relating to the course content, reading list, teaching, method and assessment criteria, notes and prerequisites are specified below.

Module 1: *Legal methodology* (Prof. Giovanni Bombelli)

***COURSE CONTENT***

The module will focus on the methodological approach to law. It will start from the specific dynamics of formalization of the legal sphere, including both the historical-conceptual references and the related epistemological assumptions, and using the "legal order" issue as an interpretation key (in contrast with the notion of "system"). Besides referring to some “classic” perspectives, these themes will be investigated by paying special attention to the growing complexity of today's socio-legal contexts, which are apparently marked by progressive fragmentation processes of modern models centred on the idea of order unity. These changes affect specific sectors of the legal system (for ex. criminal law) and determine the multiplication of reasoning models and "rationality" paradigms (mainly due to the ever-increasing pervasiveness of technology: in this regard explicit links with the other module will be suggested in relation to specific points). They also contribute to the re-discussion and reconfiguration of the “common sense horizon (beliefs)” underlying the legal experience.

In synthetic-schematic terms, after an initial overview of the legal-methodological-epistemological circuit, the module will be divided into two parts that will focus on the following topics.

The first part will focus on an in-depth analysis of the creation of the concept of "method" in reasoning about the law. After focusing on the complexity of the method problem, with special attention to the theoretical-legal profiles, the logical-thematic path will unfold around the following themes: philosophical-methodological premises (Cartesian matrix), the pair Hobbes-Leibniz, the enlightenment of some projections between the eighteenth and nineteenth centuries, the systematic-orderly perspective matured in the Historical School of Jurisprudence (Savigny and Puchta) concerning the "order"-"system" link and, finally, the comparison between Santi Romano’s institutional model and Hans Kelsen's normativist approach.

The second part of the module will provide an in-depth analysis of the concepts of method, context and common sense and to some of their complex interrelations.

More precisely, we will focus on the following key issues: the Hartian reflection (in particular the "internal" law perspective or internal point of view); the progressive category and logical-argumentative redefinition both in hermeneutic terms (Betti vs. Gadamer) and in the norm-context polarity perspective (from Esser to Mengoni); the Niklas Luhmann’s model especially in relation to the problematization of the system-context circuit with regard to the interweaving of processes of conceptualization-formalization of law and technological-IT dynamics (as discussed in the legal IT module).

As a critical conclusion, at the end of the module we will focus on some peculiar profiles of today's socio-juridical scenarios, by highlighting their growing complexity that affects specific areas of the order and therefore progressively compromise the idea of "model" also as a purely juridical conceptual tool (for example the idea of legal order). The consequence is a reconceptualisation of the decision-making dynamics (for ex. the *Management Science* and the notion of *Reasonableness*) and the emergence of theoretical-juridical paradigms, particularly the network model ("law as a network") and the so-called soft law, closely linked with technological-IT processes that reconfigure the legal conception of law with its epistemic assumptions and the underlying horizon of "common sense".

***READING LIST***

*Attending students:*

1. Materials proposed in during lectures and made available online.

2. G. Bombelli-B. Montanari (edited by), *Ragionare per decidere,* Giappichelli, Turin, 2015.

*Students should study the following essays included in this volume:*

– G. Righini, *Il modello come strumento razionale di conoscenza e di decisione: dall’uso scientifico all’uso giuridico,* pp. 181-221

*–* M. Caputo, *Occasioni di razionalità nel diritto penale. Fiducia nell’“assolo della legge” o nel “giudice compositore”?,* pp. 99-136

*–* G. Bombelli, *Diritto, decisione e paradigmi di “razionalità*”, pp. 321-358

3. G. Bombelli, *Diritto, comportamenti e forme di “credenza*”, Giappichelli, Turin, 2017.

*Only the following parts of this volume*: Introduction, ch. 1 and ch. 2.

*Non-attending students:*

1. G. Bombelli-B. Montanari (edited by), *Ragionare per decidere,* Giappichelli, Turin, 2015*.*

*Students should study the following essays included in this volume:*

– B. Montanari, *Ragionare per decidere. Dalla scientia juris alla governance,* pp. 1-33

*–* G. Righini, *Il modello come strumento razionale di conoscenza e di decisione: dall’uso scientifico all’uso giuridico,* pp. 181-221

*–* M. Caputo, *Occasioni di razionalità nel diritto penale. Fiducia nell’“assolo della legge” o nel “giudice compositore”?*, pp. 99-136

*–* G. Bombelli, *Diritto, decisione e paradigmi di “razionalità*”, pp. 321-358

2. G. Bombelli, *Diritto, comportamenti e forme di “credenza”*, Giappichelli, Turin, 2017

*Only the following parts of this volume should be studied*: Introduction and chapters 1, 3 and 4.

NOTE. Students attending other course years are required to study the exam contents corresponding to the year they are attending, e.g. those who have attended the 2015-2016 course year must prepare the course contents related to that year. For programs prior to the 2020-2021 year, it is necessary to contact the Ufficio Guide which keeps the archive of all programs.

***TEACHING METHOD***

The course includes lectures with frequent use of summaries (also through slides) aimed at improving students’ learning, and of further study material suggested each time by the lecturer (for example: reading-commenting on "classic" texts, doctrinal contextualisation, case law references, comparison with cases and/or issues related to today's scenario, etc.) made available also online on the internal Blackboard platform. The course will also include the participation of some external speakers to provide an in-depth analysis of specific aspects or issues related to the course.

Starting from an approach mostly based on the constant dialogue with students, particular emphasis will be placed on the analysis and discussion of the topics addressed, by constantly showing their connection with the topics included in the module of legal IT. Consistently with the intended learning outcomes, the aim is to develop the students’ ability to approach and critically examine the issues discussed.

***ASSESSMENT METHODS AND CRITERIA***

Note. Consistently with the unitary nature of the course, the students' assessment will consist of a single mark. Students who pass the legal IT exam, will be able to take the legal methodology exam (in the same exam session or in a subsequent exam session but within six months). The final assessment will result from the average of the scores obtained in the two module exams.

For both modules, the assessment will be based on the following common criteria.

Precondition. In accordance with the aims and the intended learning outcomes of the course, the following assessing criteria will be followed.

1. Reference grid of the assessment criteria: level of knowledge of the course contents, acquisition of a suitable method and an appropriate vocabulary/language variety, ability to grasp the critical-problematic aspects of the issues discussed in the course, level of personal critical analysis and development of logical-argumentative abilities to correctly express legal-philosophical themes. Students are reminded that the course does not include interim assessment.
2. Based on this grid, the students’ preparation will be assessed through an oral exam consisting of a series of questions concerning the course topics and texts.

More specifically, the assessment, on a 30-point scale, includes the possibility of awarding "honours" and results from the average of the scores obtained in the answers to the questions. It will be structured as follows.

Students with full understanding of the overall framework of the issues addressed in the course, together with a complete mastery of the philosophical-legal method and the ability to re-elaborate the topics covered in critical terms, will be awarded excellent marks (level: excellent).

The students’ acquisition of the structural points of the course supported by an adequate but incomplete and partially inaccurate logical-argumentative and linguistic approach, will result in a satisfactory assessment (level: satisfactory).

The students’ learning of only basic elements of the course, along with knowledge gaps concerning critical-methodological and linguistic-argumentative aspects, will be assigned a passing mark.

Considerable knowledge gaps and incomplete preparation on the fundamental contents of the course and the key issues connected to them and, finally, incorrect use of philosophical-legal language will be assigned failing marks.

***NOTES AND PREREQUISITES***

The prerequisite for an effective attendance of the legal methodology module is a basic knowledge of Philosophy of Law. In this sense, it is highly recommended to attend the exam interview after passing the Philosophy of Law exam.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG or on the Faculty notice board.

## Module 2: *Legal IT* (Prof. Alessandro Dario Cortesi)

***COURSE CONTENT***

1. *Hardware*, *software*, data. Hints on physical and logical security of data (privacy, integrity and information availability.)
2. Telecommunications: local and geographical networks. Internet and domain names.
3. Expert systems, legimatics, legislative drafting, machine learning, artificial intelligence.
4. Introduction to logics. Computational models.
5. Definition and history of Legal informatics. National and international sources. Which law for the global network? *Soft law* and self-regulation codes.
6. User profiling, jurimetrics, internet of things, *big data*. Basic notions on the right to privacy and data protection.
7. Contracts and IT: a) *Hardware*: *tying contracts, bundling contracts;* planned obsolescence and right to repair; b) *Software*: copyright and patent protection; c) Services: contracts on IT items use. *Outsourcing* and *cloud computing*.
8. Offline and Online Contracts. *E-commerce*, consumer code. *E-procurement*.
9. Contracts with IT or telematic implementation. Payment methods, cryptocurrency, electronic invoice. Blockchain and smart contracts.
10. *Sharing economy*. Notes on “*Uber tax*” and “*web tax*”.
11. Steganography, cryptography, cryptoanalysis, digital signature.
12. Digital public administration, dematerialisation of administrative documents, the Digital Administration Code, e-government and electronic voting. Whistleblowing.
13. Cybercrimes (specifically art. 414, 414-bis, 491-bis, 495-bis, 600-quater.1, 609-undecies, 609-duodecies, 612-bis, da 615-bis a 615-quinquies, 616, da 617 a 617-septies, da 635-bis a 635-quinquies, 640-ter e 640-quater of the Italian Penal Code). *Hackers* and cyber piracy. *Dark web*, *Deep web*.
14. Remote work. Worker control. Platform work.
15. Autonomous driving vehicles. Non-contractual liability. Internet Service Provider liability.
16. Introduction to the online civil procedure, administrative, tax and criminal trial.
17. *On-line Dispute Resolution*: online arbitration and mediation.
18. IT tests and *Computer/digital forensics*.

***READING LIST***

*Attending students:*

1. Notes and lecture material.
2. A.D. Cortesi (edited by), *ICT e diritto nella società dell’informazione,* Giappichelli, Turin, last edition, only the chapters not covered during lectures (as specified in the notices on lecturer's webpage).
3. We recommend referring to the updated sources available in A.D. Cortesi, *Codice dell’informatica giuridica,* Amazon Kindle Direct Publishing, last edition.

*Non-attending students:*

1. A.D. Cortesi (edited by), *ICT e diritto nella società dell’informazione,* Giappichelli, Torino, 2019.
2. We recommend referring to the updated sources, available in A.D. Cortesi, *Codice dell’informatica giuridica*, Amazon Kindle Direct Publishing, last edition.

Texts suggested for further study:

F. Pizzetti, *Protezione dei dati personali in Italia tra GDPR e codice novellato*, Giappichelli, Torino, 2021.

G. Finocchiaro, *Diritto di Intenet*, Zanichelli, Bologna, 2020.

G. Pascuzzi, *Il diritto dell’era digitale*, Il Mulino, Bologna, 2020.

L. Floridi, *Pensare l’Infosfera*, Raffaello Cortina Editore, Milano, 2020.

G. Ziccardi – P. Perri, *Tecnologia e diritto*, Giuffrè Francis Lefebvre, Milano, 2019 (3 voll.).

N.B. The exam must always be taken on the syllabus of the most recent academic year. Students enrolled in other academic years, Erasmus students, students who have changed their course of study or transfered from other universities, are requested to send an e-mail to the lecturer in order to plan how to prepare the examination.

***TEACHING METHOD***

The main theoretical topics of the course will be taught through frontal lectures. In-depth study material will be announced in class.

Exercises on PC (optional) will focus on research on national and international normative and legal sources, through advanced queries (implementing Boolean operators) of the main data banks; document cryptation with asymmetric key; use of the *consolle* for on-line civil trial; advanced functions for word processing (mail merge, revisions, indexes); advanced functions for spreadsheets (filter, nested IF function, confirming data); artificial intelligence applications (ChatGPT, Claude).

 *The exam mark will take into consideration the practical skills gained during the exercises.* To support the exercises is available the text A.D. Cortesi (edited by), *Lezioni pratiche di informatica per giuristi*, Amazon Kindle Direct Publishing, last edition.

***ASSESSMENT METHOD AND CRITERIA***

The same criteria used for the Legal Methodology module apply. Exercises (optional) end with an evaluation of gained abilities. 1 point is assigned for level Good and 2 points for level Excellent, these points are added to the mark obtained in the Legal Information Module, in addition to additional credits.

***NOTES AND PREREQUISITES***

Students who are interested in writing their dissertation on a subject of this course are highly advised to attend frontal lectures. Attendance of exercises is also recommended to gain practical skills (of specific legal interest) in order to better complete the course.

Further information can be found on the lecturer's webpage at http://docenti.unicatt.it/web/searchByName.do?language=ENG, or on the Faculty notice board.