

## Qualité de l'information et des documents numériques

### Lecturer

Isabelle BOYDENS (Coordinator)

### Course mnemonic

STIC-B510

### ECTS credits

5 credits

### Language(s) of instruction

French

### Course period

Second term

### Campus

Solbosch

## Course content

- 1 Historical overview, data quality definition ("fitness for use"), practical and epistemological stakes, cost-benefits challenges
- 2 Hermeneutics applied to the quality of empirical databases, specification methods of data quality indicators and compromises
- 3 Best practices to evaluate and improve data quality based on concrete case studies : organization, anomalies and transactions modeling and monitoring, "data & back tracking", tools and techniques (data profiling, data standardization and data matching), management strategies, metadata systems and Master Data Management.

## Objectives (and/or specific learning outcomes)

To provide the methodological and practical knowledge to evaluate and improve information systems quality.

## Pre-requisites and co-requisites

### Pre-requisites courses

MEMO-B470 | Travail d'initiation à la recherche | 5 crédits, STIC-B405 | Introduction aux bases de données | 5 crédits and STIC-B410 | Documentologie | 5 crédits

## Teaching method and learning activities

Combination of lectures with discussions with the students and practical exercises based on case studies; course taught in French

## Contribution to the teaching profile

### COMPREHENDING NEW KNOWLEDGE

- > Applying methods and techniques acquired during the BA or after a previous MA to another field of study by demonstrating intellectual openness
- > Acquiring the methodological and practical knowledge necessary to design and manage an information system

### DEEPENING SPECIALIZED KNOWLEDGE

- > Understanding and mastering specialized concepts in the field of Information Science

### BEHAVING PROFESSIONALLY

- > Displaying analytical and synthetical thinking, contextualization skills, rigor and consistency
- > Demonstrating critical thinking and autonomy

## References, bibliography and recommended reading

BADE D., "It's about Time!: Temporal Aspects of Metadata Management in the Work of Isabelle Boydens". In *Cataloging & Classification Quarterly*, volume 49, n° 4, 2011, pp. 328-338. (link to the article [<http://catalogingandclassificationquarterly.com/ccq49nr4.html#intobs>])

BATINI C. and SCANNAPIECO M., eds., *Data and Information Quality. Dimensions, Principles and Techniques*. New York, Springer, 2016.

BERTEN V. et BOYDENS I., *Email Address Reliability*, Deliverable, Section Recherches, Bruxelles, Smals, 2014.

BERTI EQUILLE L. éd., *La qualité et la gouvernance des données au service de la performance des entreprises*. Paris : Hermès, 2012.

BONTEMPS Y., BOYDENS I. et VAN DROMME D., *Data Quality : tools*. Deliverable, Section recherches, Bruxelles, Smals, 2007.

BOYDENS I., CORBESIER I. et HAMITI G., *Data Quality Tools : retours d'expérience et nouveautés*. Bruxelles, Smals, Research Section, post de blog, 07/12/2021. Link to the article [<https://www.smalsresearch.be/data-quality-tools-retours-dexperience-et-nouveautes/>].

BOYDENS I., HAMITI G. and VAN EECKHOUT R., Un service au cœur de la qualité des données. Présentation d'un prototype d'ATMS. In *Le Courrier des statistiques*, Paris, Insee, June 2021, n°6, pp. 100-122. PDF file [[http://mastic.ulb.ac.be/wp-content/uploads/2021/07/0254-21\\_INSEE-PARIS\\_INTERIEUR-COURRIER-DES-STATISTIQUES\\_6-ARTICLE7-BAT5.pdf](http://mastic.ulb.ac.be/wp-content/uploads/2021/07/0254-21_INSEE-PARIS_INTERIEUR-COURRIER-DES-STATISTIQUES_6-ARTICLE7-BAT5.pdf)] Link to the Journal and to the article [<https://www.insee.fr/fr/information/3622502>]

BOYDENS I., HAMITI G. et VAN EECKHOUT R., *Data Quality : "Anomalies & Transactions Management System" (ATMS), prototype & "work in progress"* [<https://www.smalsresearch.be/data-quality-anomalies-transactions-management-system-atms-prototype-work-in-progress/>]. Bruxelles, Smals, Research Section, post de blog, 08/12/2020.

BOYDENS I., "L'océan des données et le canal des normes" [<http://www.ulb.ac.be/cours/iboydens/annales.pdf>]. In CARRIEU-COSTA M.-J., BRYDEN A. et COUVEINHES P. eds, *Les Annales des Mines, Série "Responsabilité et Environnement"* (numéro

thématique : "La normalisation : principes, histoire, évolutions et perspectives"), Paris, n° 67, juillet 2012, pp. 22-29.

BOYDENS I., "Strategic Issues Relating to Data Quality for E-government: Learning from an Approach Adopted in Belgium". In Assar S., Boughzala I. et Boydens I., éd., *Practical Studies in E-Government : Best Practices from Around the World*. New York : Springer, 2011, p. 113-130 (chapitre 7).

BOYDENS I. et VAN HOOLAND S., "Hermeneutics applied to the quality of empirical databases". In *Journal of documentation*, volume 67, issue 2, 2011, pp. 279-289.

BOYDENS I., *Informatique, normes et temps*. Bruxelles: Bruylant, 1999.

DE WILDE M. et VERBORGH, R., *Using OpenRefine*. Brimingham-Mumbai : Packt Publishing, 2013.

HAMITI G., *Data Quality Tools : concepts and practical lessons from a vast operational environment* [<http://mastic.ulb.ac.be/2019/01/cours-conference-data-quality-tools-concepts-and-practical-lessons-from-a-vast-operational-environment-par-gani-hamiti-13-mars-2019-a-18-heures/>] . Cours-conférence, Université libre de Bruxelles, 13/03/2019.

LOSHIN D., *The Practitioner's Guide to Data Quality Improvement*. Elsevier, Morgan-Kaufmann OMG Press, 2011.

McCALLUM Q. E., *Bad Data Handbook, Mapping the World of Data Problems*. O'Reilly Media, 2012, 246 p.

MADNICK S. E., WANG R.-Y., YANG W.-L. et HONGWEI Z., "Overview and Framework for Data and Information Quality Research". In *Journal of Data and Information Quality*, Vol. 1, No. 1, 2009.

OLSON J., *Data Quality: The Accuracy Dimension*. Elsevier, The Morgan-Kaufmann Series in Database Management, 2002.

REDMAN T., *Data Quality. The Field Guide*. Boston: Digital Press, 2001.

REDMAN T., *Getting in front on Data. Who Does What*. Technics Publications, 2016.

RIVIERE P., Utiliser les déclarations administratives à des fins statistiques [<https://www.insee.fr/fr/information/3647013?sommaire=3647035>] . In *Le Courrier des statistiques*, Paris, INSEE, décembre 2018, n°1, p. 14-23.

SHAZIA S. ed., *Handbook of Data Quality. Research and Practice*. Berlin, Springer, 2013.

## Course notes

Université virtuelle

## Other information

### Place(s) of teaching

Solbosch

### Contact(s)

UV : <http://uv.ulb.ac.be> #

Teaching assistant : Guillaume Quintin # email : [Guillaume.Quintin@ulb.be](mailto:Guillaume.Quintin@ulb.be)

Professor Lecturer : Isabelle Boydens email : [Isabelle.Boydens@ulb.be](mailto:Isabelle.Boydens@ulb.be)

## Evaluation method(s)

Practice work, Written report and Oral examination

### Oral examination

Open question with short answer

### Evaluation method(s) (additional information)

The practical part consists of individual work and a short written report during the semester. The theoretical part will be tested in an oral exam lasting around 20 minutes and including open-ended questions.

### Determination of the mark (including the weighting of partial marks)

Distribution of the learning activities in the grading system : theoretical part (50%) - practical part (50%)

### Main language(s) of evaluation

French

## Programmes

Programmes proposing this course at the faculty of Letters, Translation and Communication

MA-STIC | Master in Information and Communication Science and technology | finalité Professional/unit 2

