# bcomu2114
*2023*

# CT and digital social networks: architecture, security and functioning

| 5.00 credits | 45.0 h | Q2 |
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| Teacher(s) | Verlaine Bertrand ; |
| Language : | French |
| Place of the course | Bruxelles Saint-Louis |
| Learning outcomes | **At the end of this learning unit, the student is able to :**<br>**Competency 2 - Know and orchestrate the technical, creative and marketing aspects of digital projects in organisational communication.**<br><br>*Learning Outcomes :*<br><br>1. Know the main principles of the architecture, operation and security of computer networks and social network technologies of an organisation, as well as the main computer technologies.<br>3. Know the characteristics, opportunities and constraints of the different digital channels; integrate them in a logical way in a communication plan.<br>4. Know the techniques and methods for optimising the referencing, reputation and running of online communities.<br>6. Combine 'online' and 'offline' communication modes in any communication strategy in an optimal manner.<br><br>**Competency 3 - Develop a digital culture for the organisation which mobilises management, teams and partners in communication strategies and projects.**<br><br>*Learning Outcomes :*<br><br>1. Advise the organisation's decision-making bodies on the challenges and issues at the crossroads of communication and digital innovations (communication objectives and strategies, communication as a managerial lever, the organisation's digital transformation, etc.).<br><br>**Competency 4 - Mobilise and produce knowledge in communication strategy and digital culture in a substantiated and methodical manner, as part of a critical reflection or research project.**<br><br>*Learning Outcomes :*<br><br>2. Based on multidisciplinary knowledge, develop a critical and substantiated reflection on digital technologies and their human and societal issues.<br>6. Update one's knowledge and practices by implementing methods and techniques to monitor communication and digital trends and innovations. |
| Evaluation methods | First session:<br><br>1. Written exam (60%).<br>2. Presentation of the group work (40%; mark for which the students evaluate the other groups as well as themselves).<br>Second session:<br><br>1. Oral examination (60%).<br>2. If the group presentation is not passed, i.e. <10/20 (otherwise the grade is kept, without the possibility of improving it): individual work is required and should be submitted in the form of a written report with the same objectives as the group work that should be done during the first session (40%) |
| Teaching methods | The course is first delivered in the form of a lecture presenting the concepts to be discussed, while inviting participants to a maximum of interactions. Examples and group discussions will be present to understand the links between the concepts seen and to ground them in the students' life situations. Scientific readings will be exploited several times to describe more precisely specific aspects within the subjets of the master.<br>Group work will be organized in order to mobilize and deepen the knowledge and know-how thought.<br>The course material (slides) and the required readings are published on Moodle. |
| Content | The objective of this course is to enable students to acquire the fundamental concepts of computer science for the context of computer and digital social networks used in communication within organizations. The lessons cover descriptive and practical aspects as well as theoretical aspects of networks. Technologies are approached as co-construction between IT specialists and other actors in organizations. The course also addresses the issues of technological alternatives. For example: when choosing a hosting solution, there is an opposition between IT efficiency and independence of the organization.<br>The main topics covered will be:<br><br>• architectures and technological principles of computer and mobile networks;<br>• architectures and operating principles of digital social networks, sharing platforms and collaborative platforms; |

- typology of data hosting solutions (data centers (shared servers, dedicated servers) / public cloud, dedicated cloud, etc.);
- fundamental notions of web application architecture, including mobile media;
- techniques for tracing user paths;
- technical and organizational principles of security in networks (cybersecurity: firewalls against hacking, viruses, identity theft, encryption techniques, etc.);
- technological approach to applications via connected objects.

**Course plan**

- Part I: Information systems and their "network" component

  Objective: discovering the notion of information system, its components and its types, in order to analyze more precisely its network component
- Part II: IS Architectures and Web Technologies

  Objective: understanding the structures used to build IS, with a focus on technologies and architectures based on Web technologies (including their exploitation)
- Part III: The security of information systems and networks

  Objective: understanding the security issues and the solutions commonly used to protect IS against the most common security risks
- Part IV: Networks, data and objects

  Objective: understanding the possible interdependencies between networks, data and objects ("Internet of Things")

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| Bibliography | Voir fin des slides du cours.<br>See the end of the course slides. |
| Faculty or entity in charge | ESPB |

| Programmes containing this learning unit (UE) | | | | |
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| Program title | Acronym | Credits | Prerequisite | Learning outcomes |
| Master [120] in Communication Strategy and Digital Culture (shift schedule) | COMB2M | 5 | | 🔍 |