### Course Description – Academic Year 2020/2021

<table>
<thead>
<tr>
<th><strong>Course title</strong></th>
<th>Social and Security Aspects of Data Science</th>
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<tbody>
<tr>
<td><strong>Course code</strong></td>
<td>73017</td>
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<tr>
<td><strong>Scientific sector</strong></td>
<td>INF/01</td>
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<tr>
<td><strong>Degree</strong></td>
<td>Master in Computational Data Science (LM-18)</td>
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<tr>
<td><strong>Semester</strong></td>
<td>1</td>
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<tr>
<td><strong>Year</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Credits</strong></td>
<td>6</td>
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<tr>
<td><strong>Modular</strong></td>
<td>No</td>
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<tr>
<td><strong>Total lecturing hours</strong></td>
<td>40</td>
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<tr>
<td><strong>Total lab hours</strong></td>
<td>20</td>
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<tr>
<td><strong>Attendance</strong></td>
<td>Attendance is not compulsory, but non-attending students have to contact the lecturer at the start of the course to agree on the modalities of the independent study.</td>
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<tr>
<td><strong>Prerequisites</strong></td>
<td>Minimal programming and data management skills</td>
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<td><strong>Course page</strong></td>
<td><a href="https://ole.unibz.it/">https://ole.unibz.it/</a></td>
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</table>

**Specific educational objectives**: The course belongs to the type "affini o integrative – formazione affine" in the curriculum “Data Management”. The course will provide a scientific and technical background of the vast domain of social and security aspects of data science, concentrating on data privacy and ethical aspects of data management, providing a deep knowledge about IT aspects of GDPR by using real-world use cases and examples.

**Lecturer**: Andrea Molinari  
**Contact**: E3.10, andrea.molinari@unibz.it, +39 0471 013278 / 013279
**Scientific sector of lecturer**: ING-INF/05
**Teaching language**: English
**Office hours**: Before or after lecture: arrange beforehand by email.
**Lecturing Assistant (if any)**: --
**Contact LA**: --
**Office hours LA**: --

**List of topics**
- Data protection
- Data security
- Data privacy
- Legal aspects
- Data ownership
- Ethical aspects

**Teaching format**
- Frontal lectures for the theoretical parts
- Lab sessions on specific topics and use cases

**Learning outcomes**
- Knowledge and understanding:
  - D1.1 - Knowledge of the key concepts and technologies of data science disciplines
| Assessment | • Project work to test knowledge application skills and communication skills  
| | • Written exam with verification questions and questions to test knowledge application skills  
| Assessment language | English  
| Assessment Typology | Monocratic  
| Evaluation criteria and criteria for awarding marks | • 70% Final paper/project revisiting a proposed Data Science controversy  
| | • 30% Presentation and discussion of the paper  
| | Relevant for assessment 1: skill in applying knowledge in a practical setting, ability to summarize in own words, ability to recall and reuse principles and methods used in data science  
| | Relevant for assessment 2: clarity of answers, skill in applying knowledge acquired during the course to a scientific presentation  
| Required readings | Materials in the form of slides and scientific papers provided by the teacher  
| Supplementary readings | None  
| Software used | None  

- **D1.12** - Basic knowledge of the main ethical and social implications of data science  
- **D2.12** - Ability to analyse and improve data privacy and data security features in the context of complex software infrastructures  
- **D3.2** - Ability to autonomously select the documentation (in the form of books, web, magazines, etc.) needed to keep up to date in a given sector  
- **D4.1** - Ability to use English at an advanced level with particular reference to disciplinary terminology  
- **D4.2** - Ability to present one's work in a clear and comprehensible way in front of an audience, including non-specialists  
- **D5.2** - Ability to autonomously keep oneself up to date with the developments of the most important areas of data science