This master program aims at providing society with highly qualified graduates that are able to cope with the data revolution and who are able to handle the massive heterogeneous data, so called big data, effectively and efficiently to extract valuable information. The MSc in BDSA integrates mathematical & statistical methods with the computer science and information technology.

The master program in Big Data Science and Analytics is a 36 credit-hour program which consists of six core courses that sum up to 24 credit hours and they expand over the first year of the program. In addition, there is a data science project that sums up to 12 credit hours and it comprises two components, namely, the project internship which is a fieldwork experience that takes place during summer and the project thesis which is a comprehensive independent work.

<table>
<thead>
<tr>
<th>Program Courses</th>
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<tbody>
<tr>
<td>BDSA 601 (4 - 0 - 4) Research Methods</td>
</tr>
<tr>
<td>BDSA 602 (3 - 2 - 4) Statistical Data Analysis</td>
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<tr>
<td>BDSA 603 (3 - 2 - 4) Big Data Analytics</td>
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<tr>
<td>BDSA 604 (3 - 2 - 4) Machine Learning</td>
</tr>
<tr>
<td>BDSA 605 (3 - 2 - 4) Data Mining</td>
</tr>
<tr>
<td>BDSA 606 (3 - 2 - 4) High Performance Computing</td>
</tr>
<tr>
<td>BDSA 607 (0 - 09 - 3) Project Internship</td>
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<tr>
<td>BDSA 608 (0 - 27 - 9) Project Thesis</td>
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</tbody>
</table>
### Program Outcomes

- Demonstrate broad and deep knowledge in the context of big data science and analytics.
- Identify and formulate practical problems in a variety of big data applications.
- Design and conduct effective data-driven experiments in a variety of professions.
- Use advanced statistical tools, specialist software and computing technology effectively for big data applications.
- Provide a critical evaluation for the existing techniques and develop creative techniques to handle big data issues.
- Extract valuable information from structured and unstructured big data and transform this information into actionable decisions.
- Communicate important information in relation to big data.
- Demonstrate ability to work individually and collaboratively.
- Demonstrate awareness of ethics, responsibility and consequence.
- Conduct scientific research in relation to big data and pursue life-long learning.

### ADMISSION CRITERION

1. **ONE**
   - Holding a bachelor degree from a recognized academic institution with GPA at least 2.67 out of 4 in the specialization field of Mathematics, Statistics or computer-related disciplines, or closely-related quantitative disciplines.

2. **TWO**
   - Having a good standard statistical/mathematical background in the areas of Calculus, Linear Algebra, Probability and Statistics.

3. **THREE**
   - Having a good standard IT background in the areas of Computer Programming (Java, C++, Python, R), Data Structure & Algorithms.

4. **FOUR**
   - Passing a personal interview.

5. **FIVE**
   - Demonstrating English Proficiency TOEFL (500) or IELTS (6).

6. **SIX**
   - Providing two academic letters of recommendations.

### Additional Benefits for Program Graduates

The program graduates have the opportunity to apply for the following professional certifications:

- **ASSOCIATE CERTIFIED ANALYTICS PROFESSIONAL**
- **CERTIFIED ANALYTICS PROFESSIONAL**

These certifications are designed for educators in an analytics-related area and they are sponsored by the leading international membership-based association.

### FEES

The MSc in Big Data Science and Analytics is a 36 credit-hour program where the fees are BD 140 per credit hour.

### CONTACT DETAILS

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