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**Learning Outcomes for the**

**Data Analytics: Big Problems, Big Data Solutions**

**Certificate**

Our world has many problems in every field imaginable that require data analysis to develop solutions. The rapid growth in technology has led to enormous amounts of data available. Journalism, sociology, marketing, biology – name the field and there is an opportunity to use data to inform the users of trends and relationships that could help the world solve big problems.

**Learning Outcomes:**

1. Demonstrate computer skills necessary for data analytics.
2. Utilize data in many forms and structures and be able to differentiate between different types and categories of data.
3. Use analytical tools (e.g. Excel, Python, SQL, Splunk, etc.) to clean and describe data. Demonstrate critical thinking about the ways data is dramatically changing the world we live in (e.g. big data, artificial intelligence, data mining, etc.).
4. Create reports and presentations that clearly communicate research in a way that informs and motivates action.

**Learning Outcomes Assessed in Each Course:**

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| --- | --- | --- | --- | --- |
| **Course** | **LO1** | **LO2** | **LO3** | **LO4** |
| CSCI 152 | X |  |  |  |
| CISQ 263 | X | X |  |  |
| CISQ 363 |  | X | X |  |
| CISQ 463 |  |  | X | X |