https://datascience.uiu.ac.bd/ug-program/curriculum-structure/

I. General Education

A. Language (6 Credits) 1. ENG 1011 English â€" I 2. ENG 1013 English â€" II

B. Sciences (7 Credits) 1. PHY 2105 Physics 2. PHY 2106 Physics Laboratory 3. BIO 3107 Biology

C. Humanities (2 Credits) 1. BDS 1201 History of the Emergence of Bangladesh

D. Humanities â€" Optional (9 Credits, select any three) 1. SOC 2102 Society, Environment and Computing Ethics 2. TEC 2499 Technology Entrepreneurship 3. ECO 4101 Economics 4. PMG 4101 Project Management 5. ACT 2111 Financial and Managerial Accounting 6. SOC 4101 Introduction to Sociology 7. IPE 3401 Industrial and Operational Management 8. BAN 2505 Bangla 9. URC 1101 Life Skills for Success 10. SOC 4301 Introduction to Anthropology 11. FLN 1101 Introduction to a Foreign Language (Name of the Language) 12. SWL 4101 Software and Law 13. MKT 4313 Digital Marketing 14. PSY 2101 Psychology

II. Mathematics

1. MATH 1151 Fundamental Calculus
2. MATH 1153 Advanced Calculus
3. MATH 2107 Linear Algebra
4. MATH 2205 Probability and Statistics

III. Core Courses

A. Programming (8 Credits) 1. DS 1501 Programming for Data Science 2. DS 1502 Programming for Data Science Laboratory 3. DS 1115 Object Oriented Programming for Data Science 4. DS 1116 Object Oriented Programming for Data Science Laboratory

B. Foundations in Statistics (9 Credits) 1. DS 3101 Advanced Probability and Statistics 2. DS 4523 Simulation and Modelling 3. DS 2251 Bayesian Statistics

C. Foundations in Computing (15 Credits) 1. CSE 2213 Discrete Mathematics 2. CSE 2215 Data Structures and Algorithms â€" I 3. CSE 2216 Data Structures and Algorithms â€" I Laboratory 4. CSE 2217 Data Structures and Algorithms â€" II 5. CSE 2218 Data Structures and Algorithms â€" II Laboratory 6. CSE 3521 Database Management Systems 7. CSE 3522 Database Management Systems Laboratory

D. Systems Optional (6 Credits â€" select any two) 1. CSE 4511 Operating Systems and Scripting 2. CSE 3411 System Analysis and Design 3. CSE 3421 Software Engineering 4. CSE 4197 Introduction to Internet of Things (IoT) 5. CSE 4587 Cloud Computing 6. CSE 4531 Computer Security

E. Data Science and Analytics (34 Credits) 1. DS 1101 Fundamentals of Data Science 2. DS 3885 Data Wrangling 3. DS 4217 Data Privacy and Ethics 4. DS 3521 Data Visualization 5. DS 3522 Data Visualization Laboratory 6. DS 4891 Data Analytics 7. DS 4892 Data Analytics Laboratory 8. DS 4889 Machine Learning 9. DS 4817 Big Data 10. DS 4211 Deep

Learning 11. DS 4491 Machine Learning Systems Design 12. DS 3881 Regression and Time Series Analysis 13. DS 3120 Technical Report Writing and Presentation

IV. Option â€" I Advanced Data Science and Computing (12 Credits â€" select any four) V. Option â€" II Application Area (12 Credits â€" select any four) VI. Capstone Project â€" 6 Credits 1. DS 4000A Capstone Project â€" I 2. DS 4000B Capstone Project â€" II 3. DS 4000C Capstone Project â€" III

Option â€" I Courses (Advanced Data Science and Computing)

1. DS 4213 Natural Language Processing
2. DS 4215 Social Media Analytics
3. DS 4219 Game Theory
4. DS 4221 Complex Systems
5. DS 4223 Recommender Systems
6. DS 4225 Probabilistic Graphical Models
7. DS 4227 Mathematical Optimization
8. DS 4229 Data Warehousing
9. CSE 4337 Robotics
10. CSE 3811 Artificial Intelligence
11. DS 4821 Generative Machine Learning
12. DS 4823 Reinforcement Learning
13. DS 4825 Deep Learning for Computer Vision
14. DS 4921 Special Topic â€" I

Option â€" II Courses (Application Area)

1. DS 4111 Genomic Data Analysis
2. DS 4113 Spatial Analytics
3. DS 4115 Marketing Analytics
4. DS 4117 Computational Finance
5. DS 4119 Health Informatics
6. DS 4121 Introduction to Actuarial Science
7. DS 4123 Human Computer Interaction
8. DS 4125 Medical Image and Signal Processing
9. DS 4127 Computational Epidemiology
10. DS 4129 Remote Sensing of Environment
11. DS 4131 Precision Agriculture
12. DS 4923 Special Topic â€" II

Summary of the Curriculum

#	Group	Theory	Lab	Project	Credits
1	GED â€" Language	2			6.0
2	GED â€" Science	2	1		7.0
3	GED â€" Humanities	4			11.0
4	Mathematics	4			12.0
5	Core Courses â€" Programming	2	2		8.0
6	Core Courses â€" Foundations in Statistics	3			9.0
7	Core Courses â€" Foundations in Computing	4	3		15.0
8	Core Courses â€" Systems	2			6.0
9	Core Courses â€" Data Science	11	2		34.0
10	Option â€" I	4			12.0
11	Option â€" II	4			12.0

12	Capstone Project			3	6.0
#	Total	42	8	3	138.0
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Departments

- Dept. of CSE
- B.Sc in Data Science
- Dept. of EEE
- Dept. of Civil Engineering
- Dept. of Pharmacy
- Dept. of English
- Dept. of EDS
- Dept. of MSJ
- SoBE (BBA, AIS, MBA, EMBA)
- Dept. of Economics
- Dept. of BGE

Admission

- Admission
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- Admission Test Result
- Admission Procedure
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Important Links

- Time Schedule of Shuttle Services

- Student Transportation Service
- Payment Procedure
- Student e-Resources
- Important Contact

Quick Links

- UCAM
- eLMS
- Parent Portal
- Online Classroom Booking
- Degree Verification
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