DATA SCIENCE (DAS)  
Fall 2023

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Data Science Program
The SBU Graduate Program in Data Science (DAS) features both MS and PhD degree programs in Data Science. It is jointly offered by the Department of Applied Mathematics and Statistics (AMS), and the Department of Computer Science (CS), both part of the College of Engineering and Applied Sciences (CEAS). Students will receive vigorous training in Data Science encompassing topics such as statistical analysis, big data analysis/management and fundamentals of computing.

Applying to the Program
We welcome students with solid foundations in data science, computer science, statistics, mathematics, or related science or engineering disciplines to apply for our program.

Fall 2023 Application Deadlines:
– International applicants: April 15, 2023
– Domestic applicants: June 1, 2023

General application information can be obtained at the Graduate School website or go directly to the application website.

Application Requirements:
A. A bachelor's degree in computer science, data science, statistics, mathematics, a natural science, engineering, an applied science, or social science with a strong mathematics and Students are expected to be fluent in Calculus and at least one programming language.

B. A minimum overall cumulative GPA of at least 3.0 (or equivalent), and at least a 3.0 average in all courses in pertinent or related fields. Attention will be given to courses related to data science, computer science, statistics, and mathematics.

C. For Fall 2023 applications, the Graduate Record Examination (GRE) General Test is NOT required. However, you are most welcome to submit your GRE score should you have it. Any GRE scores should be reported by ETS (Educational Testing System) to the Graduate School using institutional code 2548 and department code 0702.

D. An applicant who is not a native or primary speaker of English must present a minimum score for either the TOEFL or IELTS tests as follows:
• TOEFL iBT: Overall score of 90 for doctoral applicants and 80 for master’s applicants.
• IELTS: Overall score of 6.5, with no subsection recommended to be below 6.
• TOEFL scores should be reported by ETS to the Graduate School using institutional code 2548. Official IELTS score reports must be mailed to our department directly. Applicants who have earned a degree from an English language university or college, where all instruction is in English, may be admitted without taking the TOEFL/IELTS tests.

F. Three letters of reference and all transcripts of undergraduate and/or graduate study completed.

G. Applicants with domestic credentials must submit an official transcript from each undergraduate college or university attended, regardless of whether a degree was conferred. Applicants must also submit an official transcript from each college or university relating to graduate-level work, regardless of whether a degree was conferred.

Applicants with international credentials must submit an official English translation of all coursework showing a complete course-by-course record, GPA, degree, and institution, in addition to the original documents. In some instances where the coursework, degree equivalency, GPA, and/or institution cannot be verified, a course-by-course evaluation from one of Stony Brook University’s approved NACES members listed below, may be requested from the applicant.

1. World Education Services (WES)
2. International Education Evaluations, Inc. (IEE)
3. Education Credential Evaluators (ICE)

Unofficial copies for both domestic and international credentials are acceptable for an admission decision to be made. If admitted, the applicant must submit final official transcripts/evaluations sent directly from the college/university or evaluation agency as noted above.

Final Transcripts and Other Materials should be sent to:
Stony Brook University
Office of Graduate and Health Sciences Admissions
Health Sciences Tower, Level 2 – Rm. 271
Official E-Transcripts: Should be sent to gradadmissions@stonybrook.edu

Application Procedure:
Please read this entire webpage before you apply. General application information can be obtained at the Graduate School website or one can directly to the application website.

Note that the application portal status page will give several options to upload additional documents after the application has been submitted. Select the “Personal Statement” option from the dropdown menu and upload your personal statement.

Provisional Admission: Occasionally, students with who are less proficient in terms of credentials, but otherwise demonstrate academic potential are offered provisional admission. Their admission offer will stipulate remedial classes they must take in their first semester and earn at least a B average in order to matriculate to the regular MS or PhD student status.

To be updated...

Masters of Science
The MS program features 36 credits (12 courses) including 10 core courses and 2 electives. The ten core courses are: (1) AMS 507 Probability, (2) AMS 572 Data Analysis, (3) AMS 580 Statistical Learning (or AMS 530 Parallel Computing if the student has already taken a course like AMS 580), (4) AMS 597 Statistical Computing, (5) CSE 581, Computer Science Fundamentals: Theory, (6) CSE 582, Computer Science Fundamentals: Data Structures and Algorithms, (7) CSE 583, Computer Science Fundamentals: Programming Abstractions, (8) ISE 503 Data Management, (9) AMS 560 Big Data System, and (10) AMS 598 Big Data Analysis. The two electives can be selected from any letter-graded courses offered by the AMS and CS departments. As a capstone experience and part of the electives, we require the students to take either (i) 3-credit of AMS 585 Internship in Data Science, or (ii) 6-credits of AMS 585 as a master thesis, with a faculty mentor. Students are expected to complete their MS program in 3 to 4 semesters. The following is a 3-semester course plan for MS in Data Science:

Term 1 (Fall semester):
AMS 507 Probability
AMS 572 Data Analysis
CSE 581, Computer Science Fundamentals: Theory
CSE 582, Computer Science Fundamentals: Data Structures and Algorithms

Term 2 (Spring semester):
AMS 580 Statistical Learning (or AMS 530 Parallel Computing)
AMS 597 Statistical Computing
CSE 583, Computer Science Fundamentals: Programming Abstractions
ISE 503 Data Management

Term 3 (Fall semester):
AMS 560 Big Data System (Cloud Computing)
AMS 598 Big Data Analysis
Elective 1 *
Elective 2 *

Note: (1)* Students can choose to take at least 3-credit of AMS 585 Internship in Data Science during either the third semester, or the summer between the second and the third semesters, with or without industrial sponsors. (2) For students who have taken some of these courses in a previous degree program, they can substitute them with other relevant letter-graded graduate courses from AMS or CS Departments upon the approval of the graduate program director and the course instructor.

PhD
The doctoral students in Data Science are required to take the same 10 core courses as in the MS program, as well. Furthermore, the doctoral students will need to take at least 2 electives (any letter-graded courses) from AMS or CS departments, plus an additional 42 credits of electives (including at least 18 thesis research credits) to satisfy the minimum 78-credit PhD program requirement. A doctoral student will take the written doctoral qualifying exam at the end of their first academic year. The doctoral qualifying exam consists of a 3-hour CS foundation exam, and a
3-hour Data Mining exam. These two exams will be held at the end of May/beginning of June - based on the following eight Data Science core courses taught in the first year of the Data Science Graduate Program under the usual Fall admission, namely, (1) AMS 507 Probability, (2) AMS 572 Data Analysis, (3) AMS 580 Statistical Learning, (4) AMS 597 Statistical Computing, (5) CSE 581, Computer Science Fundamentals: Theory, (6) CSE 582, Computer Science Fundamentals: Data Structures and Algorithms, (7) CSE 583, Computer Science Fundamentals: Programming Abstractions, and (8) ISE 503 Data Management.

The program provides a pathway for MS students to transfer to the PhD program upon completing the set of eight core courses with GPA >=3.5 and passing the doctoral qualifying exam.

Financial Support

All students admitted to the PhD program will automatically be considered for financial support and tuition waiver if the application is submitted by the due date. MS students are not typically considered for financial support or tuition waiver at the time of admission. However, in a small number of cases qualified MS students are able to receive partial support via departmental or campus opportunities.

To be updated...

NOTE: The course descriptions for this program can be found in the corresponding program PDF or at COURSE SEARCH.