Proposal for Modification to BS Data Science

Proposal dated February 24, 2026, For 2026-2027 Catalog Year

The proposal below is the "Revision version 2" dated 3/4/26 of the "Original Revision" dated 2/19/26. The only minor update is with the DS 100 requirement as described below.

Status of Proposal

2/24/2026 Original Revision passed BS DS Steering Committee without objection

3/2/2026 Original Revision passed CS Department

3/2/2026 AMAT Dept expressed concern about change DS 100 -> "DS 100 or CS 100 or MATH 100"

3/4/2026 Revision version 2 reads DS 100 -> DS 100* (*Or CS 100 or MATH 100 by agreement with the academic advisor)

3/4/2026 Mustafa approves Revision version 2 for CS Department as a change inconsequential to the 3/2/2026 CS faculty vote

3/10/2026 Kiah Ong requests objections from AMAT faculty to Revision version 2 by end-of-day 3/13/2026

3/16/2026 After no AMAT faculty objections were received, Kiah Ong declares Revision version 2 adopted by AMAT and ready to proceed to UGSC.

Summary of proposed revisions

1. Data Science Requirements

Change: Replace **DS 100** with:

- **DS 100***

Footnote: Or CS 100 or MATH 100 by agreement with the academic advisor.

Reason:
Maintains the promotional visibility of the Data Science major for first-year students. If enrollment in DS 100 or MATH 100 is low, the courses may be cross-listed with some shared meetings. In exceptional cases, DS 100 sections may be diverted to another ITP.

2. Computer Science Requirements (Intro Programming)

Change: Replace **"CS 104 and CS 201"** with **"CS 201."**

Reason:
CS 201 is the one-semester, 4-credit equivalent of the standard **CS 115–116 (2+2 credit)** sequence. The previous requirement carried over from the BS in Applied Mathematics, where CS 104 provided additional

programming exposure and/or a programming language of relevance to mathematics. In the BS DS program, **DS 151 (Python)** already complements CS 115 or CS 201 and provides sufficient programming depth.

3. Computer Science Requirements (Foundations)

Change: Add **CS 330 or MATH 230** as a required course.
Correspondingly reduce **Data Science Electives from 12 credits to 9 credits.**

Reason:
This requirement exists in other AMAT and CS degrees. Its omission restricted access to certain upper-level electives and has created a few scheduling/advising headaches. More importantly, the topics in these courses are foundational to much of data science. The choice between **CS 330** and **MATH 230** will be guided by advising, depending on whether a student leans more toward computer science or mathematics/statistics.

4. Data Science Communication and Ethics & Society Baskets

Change: Update the course options in each 3-credit basket after reviewing syllabi.

Data Science Communication basket

- **Add:** COM 320 *AI-Assisted Workflows*, COM 523 *Communicating Science*
- **Delete:** SCI 522 (no longer offered; replaced by COM 523)

Ethics & Society Basket

- **Delete:** PHIL 374, PHIL 375 (no longer offered)
- **Add:**
  - PHIL 330 *Philosophy of Data Science*
  - PHIL 331 *Political Philosophy of Artificial Intelligence*
  - PHIL 372 *Ethics of Technology and Communication*
  - PHIL 382 *Bioethics*
  - SSCI 345 *AI and Public Policy*

Reason:
Updates were required due to course eliminations and additions. All new courses were reviewed to ensure alignment with the objectives of the requirement areas.

5. Technical Depth and Data Science Electives

Change: Update course lists.

Reason:

- Resolve edge cases (e.g., allowing credit for **both CS 484 and MATH 484**)
- Add several new courses from **AMAT and CS**
- Add selected courses from other departments after reviewing syllabi

Overall Credit Structure

There is no major change in required credit hours, except that moving CS 330 / MATH 230 to the required category reduces Data Science Electives from 12 to 9 credits.

However, a recent UGSC rule change allowing double-counting between major requirements and the Core Curriculum allows students to double-count up to 15 credits within:

- Data Science Communication
- Ethics and Society
- Data Science Electives

As a result, the Free Electives range expands to 4–20 credits.

Additional Notes

DS 261 Course Update

- Title change: DS 261 Ethics and Privacy in Data Science → DS 261 Data Ethics and Responsible AI
- Moderate syllabus revision retaining existing content while adding AI-related learning objectives
- The course will also serve as an option in the AI Management Certificate

DS 451 Cross-Listing

- DS 451 (not yet run) will be cross-listed with CSP 571 to avoid very small enrollments
- The syllabus and possibly prerequisites are being revised to support the cross-listing.

Proposed Modification Details in CIM

Interested faculty may also see the technical implementation of the above proposal in the CIM Program system by searching "BS-DS."