Western
UNIVERSITY · CANADA

Major in Analytics and Decision Sciences
Final Assessment Report & Implementation Plan
March 2025

Faculty / Affiliated University College	King's University College	
Degrees Offered	Bachelor of Arts (B.A.)	
Date of Introduction	September 1, 2025	
New Module	Major in Analytics and Decision Sciences	
External Reviewers	Dr. Srinivas Krishnamoorthy Beedie School of Business Simon Fraser University	Dr. Michael Pavlin William Birchall Chair in Management Analytics, Wilfrid Laurier University
Internal Reviewer	Vicki Sweeney, Associate Dean Huron University College	Jiya Sahni Faculty of Science Science Councilor
Date of Site Visit	January 16 & 17, 2025	
Date Review Report Received	February 7, 2025	
Date Program/Faculty Response Received	Program: March 7, 2025 Faculty: March 7, 2025	
Evaluation	Approved to Commence	
Approval Dates	SUPR-U: April 23, 2025 ACA: May 6, 2025 Senate: May 16, 2025	
Year of Next Review	2033-2034	
Progress Report	June 2029	

Overview of Western's Cyclical Review Assessment Reporting Process

In accordance with Western's Institutional Quality Assurance Process (IQAP), the Final Assessment Report (FAR) provides a summary of the new program proposal, report prepared by external reviewers, internal responses, and assessment and evaluation of the Major in Analytics and Decision Sciences to be delivered by the School of Management, Economics, and Mathematics at King's University College.

This FAR considers the following documents:
- the program's proposal brief;
- the external reviewers' report;
- the response from the academic unit; and
- the response from the Academic Dean, King's University College.

This FAR identifies the strengths of the proposed program and opportunities for program enhancement and improvement, and details the recommendations of the external reviewers – noting those recommendations to be prioritized for implementation.

The Implementation Plan details the recommendations from the FAR that have been selected for implementation, identifies who is responsible for approving and acting on the recommendations, specifies any action or follow-up that is required, and defines the timeline for completion.

The FAR (including Implementation Plan) is sent for approval through the Senate Subcommittee on Program Review - Undergraduate (SUPR-U), ACA and Senate. Following institutional approval, it is then submitted for approval to the Ontario Universities' Council on Quality Assurance.

Program Summary

Analytics and Decision Sciences (ADS) is a multidisciplinary program that takes a broad foundation in mathematics, economics, philosophy, and psychology, and layers onto it a set of advanced yet practical courses in areas such as statistics, business analytics, data visualization, risk analysis, time-series forecasting, and more. These areas exist at the intersection of data and decision making, and a foundation in ADS arms students to solve quantitative and non-quantitative problems across the management and social sciences.

Projected enrolment in the Major is 10 students in the first year of offering – going up to about 25 students as of the third year of offering.

Strengths and Innovative Features Identified by the Program

- Interdisciplinary program that includes experiential learning experiences involving external partners – these opportunities will help students develop communication skills and add a focus on the dangers of ambiguity when presenting analysis of data.
    - Possibility for students in the Major in ADS to complete a dedicated internship in analytics.
- Unique to this program, students will:
    - develop an ability to frame questions and solve complex problems, using a mix of qualitative and quantitative reasoning, in local and global contexts.
    - connect business/management problems to appropriate theories and frameworks drawn from the mathematical and statistical sciences, and implement strategies using a mix of skills with software, programming, and basic analysis.
    - connect technical skills to a broader social context to analyze the roles ideology, culture, political power, and history play in decision-making.
- Courses to be included in the proposed Major in ADS will prepare students for success at the Chartered Financial Analyst (CFA); and, create synergies with other programs such as Finance, MOS, Economics.
- Success of the Minor in ADS, student interest, along with increasing demand for analytics skills in business/management, are good indicators that a Major in ADS is likely to be successful.

Proposal Preparation and Review Process

Following the successful launch of the Minor in ADS, and internal surveys of students conducted between 2017 and 2023, student demand for a major has continued to grow. The School recognized the increasing demand for analytics in business/management skills, which remain outside of the traditional sciences. The School's leadership met with Undergraduate Chairs – after their review of this proposal, no objections were raised. More specifically, those consulted regarding the proposal included:

- Chair, Department of Psychology, King's University College
- Chair, Department of History, King's University College
- Chair, Department of English, King's University College
- Chair, Department of Philosophy, King's University College
- Dean of Arts and Social Science, Huron University College
- Acting Dean, Faculty of Science
- Associate Academic Dean, Faculty of Science
- Acting Chair, Department of Mathematics, Faculty of Science
- Undergraduate Associate Chair, Dept of Mathematics, Faculty of Social Science
- Undergraduate Chair, Computer Science, Faculty of Science
- Chair, Computer Science, Faculty of Science
- Undergraduate Chair, Statistical and Actuarial Sciences, Faculty of Science
- Chair, Statistical and Actuarial Sciences, Faculty of Science
- Dean, Faculty of Social Science
- Associate Dean Undergraduate, Faculty of Social Science

Following approval to proceed with an external review by SUPR-U, a review committee was struck comprising two external reviewers, one internal reviewer and one student reviewer. Reviewers were provided with the program proposal brief in advance of the scheduled review and then met via Zoom over two days with the:

- Vice-Provost (Academic Programs)
- Director of Academic Quality and Enhancement
- Associate Director Mathematics and ADS
- Director, School of Management, Economics, and Mathematics
- Dean of Faculty, King's University College
- Associate Dean (Academic), King's University College
- University Librarian, Associate University Librarian & Collection Strategies
- Program Faculty
- Administrative Staff
- Current Students
- Recent Alumni of the Minor in ADS

Following the site visit, the external reviews produced a comprehensive review report with recommendations which was sent to the academic unit and the Dean for review and response. These formative documents, including the new program proposal document, the external reviewer report, and the Program and Faculty responses, have formed the basis of this assessment report of the proposed Major in Analytics and Decision Sciences.

Summative Assessment – External Reviewers' Report

The external reviewers shared that *"our overall assessment of the proposed ADS major is positive. The program objectives are clear and well aligned with documented labour market demand for data literate business professionals."*

Strengths and/or Unique Aspects of the Program

- Overall, objectives are clear and well aligned with documented labour market demand for data literate business professionals.
- Faculty and staff resources are very adequate for this new program. The experience with the minor, and the relatively small enrollment, means that all courses are already being offered and there is no perceived need to increase the number of sections.
    - Almost all courses allocated to full-time faculty.
- Curriculum will be enhanced by: 1) varied delivery modes, including experiential learning; 2) a philosophy course that explores how decision making is influenced by history, culture, political power, and ideology – demonstrating a commitment to EDI; and 3) a data visualization course that covers ways to mitigate sources of bias.
- Proposed admission requirements will ensure that students have a foundational understanding of mathematics and economics necessary for successful program completion.
- Good connections with local institutions like hospitals and healthcare networks to ensure a ready supply of experiential learning opportunities.
- Alumni of the Minor in ADS found it to be a strong preparation for challenging graduate work in business analytics.

Opportunities for Program Improvement Mentioned by Reviewers

- A data management course, which includes technical and soft skills, would help enable students to envision data management at an institutional level. (*Associated with Recommendation #3)*
- Students will need access to a persistent relational database to enable their development of required industry skills. (*Associated with Recommendation #6)*
- Consider ways of expanding student access to networking and employment resources. (*Associated with Recommendation #7)*
- Ensure that classes are scheduled in rooms that have Wi-Fi and electrical outlets. (*Associated with Recommendation #5)*

Summary of the Reviewers' Recommendations and Program/Faculty Responses

The following are the reviewers' recommendations in the order listed by the external reviewers.

Reviewers' Recommendations	Program/Faculty Response
Recommendation #1 The statement of "appreciating the difficulties of relying on purely data-driven approaches for decision-making" in the program objectives is vague and difficult to validate. We suggest amending to the effect of "understand limitations of quantitative methods and the need for complementary managerial skillsets".	**Program:** The proposal was amended to reflect this change. **Faculty:** The Dean's Office agrees with and supports the program response. The program objectives (Section 2.1.3, 2. Evaluation Criteria), now read: "*Our program objectives are (1) to create graduates who can inform and lead debate using quantitative reasoning while understanding limitations of quantitative methods and the need for complementary managerial skillsets; and (2) to satisfy the market demand for university graduates who have a mix of data and business skills needed by businesses, government, and not-for-profits.*"
Recommendation #2 Areas of alignment with the strategic plans of Western and King's are present and should be better and more explicitly emphasized in the program proposal.	**Program:** This component of the proposal has been expanded to better delineate alignments with Western-150. **Faculty:** The Dean's Office agrees with and supports the program response.
Recommendation #3: Include a data management course to the ADS major. It would support a broader capacity to envision data management at an institutional level. The course could include technical skills (SQL) and softer skills.	**Program:** • The program proposes that, effective September 2026, the ADS major be amended to require MOS 3335A/B (Introduction to Data Science for MOS). King's presently lists this course as an option within the modular checklist for the ADS major. • The amendment then requires that the "1.0 from…" options list be reduced to "0.5 from…" which is reflected in the revised proposal. This change would necessitate an update to the formal prerequisites for MOS 3335A/B so that special permission will not be needed for students to enroll. • Softer skills around data governance and data management would be incorporated into the database management portion of the course. **Faculty:** The Dean's Office agrees with and supports the program response.

Recommendation #4: The program architects should ensure that the annual retreat is continued and that there is reserved meeting time during this event to review the program courses and identify areas for changes and improvements.	**Program:** The program confirms a continued commitment to having annual retreats which focuses on ongoing program improvements. **Faculty:** The annual retreat is a continuing exercise. A commitment to the same was established several years ago and has been ongoing since.
Recommendation #5: Courses with specific classroom needs should have priority for those classrooms. This is currently done in an ad hoc fashion. If needed a more formal arrangement could be considered.	**Program:** • Preferential scheduling, in a formal fashion, runs into constraints with classroom capacity. The only feasible way to address this difficulty is to have more classrooms that meet the requirements. • In part to meet this need, a classroom modernization committee was struck in Fall 2024 (with one member of the ADS group serving). The purpose of this group is to determine the needs and criteria for improvement of classrooms (e.g., more outlets). **Faculty:** Although preferential scheduling sometimes runs into constraints, efforts will be taken to ensure that classrooms for ADS courses have the necessary infrastructure to run the aforesaid classes. There is an overall impetus to ensure that more classrooms meet the requirements of the courses that are conducted in them. A Classroom Modernization Project is part of King's University's broader strategic goal of improving the quality of education through state-of-the-art learning environments. The objective is to modernize classrooms with technology-driven tools, adaptable designs, and inclusive learning spaces that support diverse pedagogical approaches and student engagement. The upcoming milestones include a phased roll-out plan based on the success of the Proof of Concept (PoC) classroom. Such projects play a vital part of the King's commitment to providing an innovative and inclusive learning environment to programs such as the ADS major.
Recommendation #6: Database and computing resources should be evaluated particularly with respect to the establishment of a new or revised data management course. Access to a persistent relational database will provide students with an opportunity to refine this skillset that was identified by current and former students as a key job market skill and is recognized by the reviewers as fundamental.	**Program:** A relational database for MOS 3335A/B (involving SQL) can be set up with support from King's ITS. No difficulties are anticipated for a September 2026 start. **Faculty:** The Dean's Office agrees with and supports the program response.

Recommendation #7:	Program:
Allocate specific resources to support graduate and career networking and employment resources to enhance resources provided through student clubs.	- A portion of the School of MEM's budget will be allocated specifically to support networking and career resources for students in the ADS major, as is typically done for other professional pathway programs events (such as the CPA and accounting initiatives, or CHRP and human resources initiatives). - As the alumni network grows, first including students with the ADS minor and eventually with the ADS major, the program will work with the Office of Alumni and Development and Program Manager, School of MEM at King's to identify networking and career development opportunities targeted to students in the ADS program. **Faculty:** The Dean's Office agrees with and supports the program response.

Implementation Plan

The Implementation Plan provides a summary of the recommendations that require action and/or follow-up. In each case, the Program leader and the Dean of the Faculty are responsible for enacting and monitoring the actions noted in Implementation Plan. Recommendations #1 and #2 have not been included in the implementation plan as the suggested edits put forward in these recommendations have all been made in the proposal brief.

Recommendations	Proposed Action and Follow-up	Responsibility	Timeline
Recommendation #3 Include a data management course to the ADS major.	• Revise ADS Major to require MOS 3335A/B (Introduction to Data Science for MOS) and concurrently reduce "1.0 from…" option listing to become "0.5 from…". • Revise prerequisites for MOS 3335A/B to include Economics 2222A/B. • Incorporate skills around data governance/management into the database management portion of the course.	Associate Director	By Sept 2026
Recommendation #4 Ensure that the annual retreat is continued with dedicated time to review the ADS Program.	• Schedule an annual retreat with dedicated time to review the program courses and identify areas for changes and improvements.	Associate Director	By Sept 2026
Recommendation #5 Courses with specific classroom needs should have priority for those classrooms.	• Expand number of classrooms with outlets. • With renewed capacity, initiate preferential scheduling (e.g., of labs requiring plugs) in a more formal way.	Associate Director & Associate Academic Dean	By Sept 2026
Recommendation #6 Database and computing resources should be evaluated particularly with respect to the establishment of a new or revised data management course. Access to a persistent relational database will provide students with an opportunity to refine this skillset.	• Create relational database for use in MOS 3335A/B. • Establish access protocols for database on King's ITS server "Scotty".	Associate Director	By Sept 2025 By Sept 2026
Recommendation #7 Allocate specific resources to support graduate and career networking and employment resources.	• Allocate funds to support networking and career resources for students in the ADS major in the in the Fall-Winter 2025 budget. • Expand networking and career development opportunities particularly for students in the ADS program, utilizing the growing alumni base.	Associate Director	By Sept 2025