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The following Motions and Documents were considered by the GFC General Faculties Council at its Monday, February 26, 2024 meeting:

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Agenda Title: **New Members of GFC**

CARRIED MOTION:

MOTION: TO APPOINT: The following ex-officio members to serve on GFC for a term beginning July 1, 2024 and ending September 30, 2024: - Vic Adamowicz Agricultural, Life and Environmental Sciences The following ex-officio members to serve on GFC for a term beginning October 1, 2024 and extending for the duration of the appointment: - Rickey Yada Agricultural, Life and Environmental Sciences

Final Item: 4.

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Agenda Title: **Suspension of the Specialisations in Educational Policy Studies and Elementary Education in the Doctor of Education**

CARRIED MOTION:

That General Faculties Council recommend that the Board of Governors approve the suspension of the Educational Policy Studies specialization and the Elementary Education specialization under the Doctor of Education (EdD), for implementation upon final approval.

Final Item: 5.

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Agenda Title: **Deletion of GFC Policy Manual Section 109 - Student Records: Contents, Access, Use, and Protection**

CARRIED MOTION:

THAT General Faculties Council rescind Section 109 of the GFC Policy Manual.

Final Item: 6.

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Agenda Title: **Deletion of GFC Policy Manual Section 56 - General Appeals Committee (GAC)**

CARRIED MOTION:

THAT General Faculties Council rescind Section 56 of the GFC Policy Manual.

Final Item: 7.

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Agenda Title: **Master in Management Analytics**

CARRIED MOTION:

THAT the General Faculties Council recommend that the Board of Governors approve the new Master of Management Analytics (MMA) program in the Alberta School of Business for implementation upon final approval.

Final Item: 8.

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**Decision**  **Discussion**  **Information**

**ITEM OBJECTIVE:** To seek approval of the suspension of two specializations under the Doctor of Education (EdD): Educational Policy Studies and Elementary Education.

|                              |                                     |
|------------------------------|-------------------------------------|
| <b>DATE</b>                  | February 26, 2024                   |
| <b>TO</b>                    | General Faculties Council           |
| <b>RESPONSIBLE PORTFOLIO</b> | Provost & Vice-President (Academic) |

**MOTION:** That General Faculties Council recommend that the Board of Governors approve the suspension of the Educational Policy Studies specialization and the Elementary Education specialization under the Doctor of Education (EdD), for implementation upon final approval.

**EXECUTIVE SUMMARY:**

The rationale for suspending the EdD specializations in Educational Policy Studies (EDPS) and Elementary Education (EDEL) is as follows: There has been considerable confusion and misinformation about the differences between the EdD and PhD within EDEL and EDPS given the similarity in program requirements. Enrolment in the EdD specialization in Educational Policy Studies and Elementary Education has dropped to very low levels and the programs are judged to be unsustainable. Recognizing the need for advanced professional training, the Faculty of Education is developing a new, course-based Doctor of Education (EdD) specialization in Educational Studies which is not restricted to any particular academic program within the newly non-departmentalized Faculty of Education, targeted towards working professionals/educators who are not interested in working in the academy but desire a higher degree to assist them in work-related research, writing and thinking. Students who wish to pursue more traditional advanced scholarly work in Elementary Education or Educational Policy Studies may still enroll in the PhD in these programs.

**Supporting Materials:**

1. Suspension EdD Educational Policy Studies Specialization - EDPS EdD program-suspension-template
2. Suspension EdD Elementary Ed Specialization - EDEL EdD program-suspension-template



**SCHEDULE A:**

**Engagement and Routing**

Consultation and Stakeholder Participation / Approval Route (parties who have seen the proposal and in what capacity) <[Governance Resources Section Student Participation Protocol](#)>

**Approval Route:**

- Department Council (EDPS) - April 8, 2022
- Department Council (EDEL) - April 8, 2022
- Graduate Academic Affairs Council – November 7, 2022
- FGPS - GPST - December 11, 2023
- FGPS Council - January 17, 2024
- GFC - Programs Committee - February 8, 2024
- GFC Academic Planning Committee (APC) - March 6, 2024 (anticipated)
- GFC - April 29, 2024 (anticipated)
- Board Learning, Research and Student Experience Committee (BLRSEC) - May 31, 2024 (anticipated)

## Proposal Template: Program Suspension and Extension of Suspension

Use this template for proposals to suspend approved programs or specializations or to propose an extension to a current suspension.

Fill in the section below that is relevant to your proposal:

- Section A: if you are proposing a suspension of a ministry-approved program or specialization;
- Section B: if you are proposing an extension to a suspension previously approved by the ministry which is still in effect for a program or specialization.

Institutions should:

- ensure that submission content is concise. Any additional information may be appended;
- indicate “not applicable” when questions are not relevant to a particular proposal; and
- ensure that applicable supporting documents are attached to the proposal.

### Basic Information (all proposals must complete this section)

|  |                                   |
|--|-----------------------------------|
| <b>Institution</b>                       | <b>University of Alberta</b>      |
| <b>Program Name</b>                      | <b>Doctor of Education (EdD)</b>  |
| <b>Specialization Name</b>               | <b>Educational Policy Studies</b> |
| <b>Credential Awarded</b>                | <b>Doctor of Education</b>        |
| <b>Proposed start date of suspension</b> | <b>July 1, 2024</b>               |
| <b>Proposed end date of suspension</b>   | <b>June 30, 2029</b>              |

## SECTION A: PROGRAM SUSPENSION

### SECTION A: RATIONALE

#### 1. Suspension Rationale

- Identify the purpose for the suspension with supporting rationale and evidence (e.g., low student demand, declining labour market demand, institutional capacity, need for program redevelopment, quality assurance review recommendation, etc.).

The rationale for suspending the EdD specialization in Policy Studies is threefold. First, the Faculty of Education is developing a new, course-based Doctor of Education (EdD) specialization in Educational Studies. This new EdD specialization is targeted towards working professionals/educators who are not interested in working in the academy but desire a higher degree to assist them in work-related research, writing and thinking. Some of our competitors like the Universities of Calgary and Portland have robust EdD programs for professionals and there is room and desire for an innovative program in the Faculty of Education at the University of Alberta. University of Alberta Masters' graduates and contacts in the field have been asking for such a program[1]. Second, there has been considerable confusion and misinformation about the differences between the EdD and PhD within this specialization given the similarity in program requirements. Third, enrolment in the EdD specialization in Educational Policy Studies has been very low (see table below).

- Document enrolments (by head count) for the most recent 5-year period, including the current academic year if available.

| Enrolment                       | 2023 | 2022 | 2021 | 2020 | 2019 |
|---------------------------------|------|------|------|------|------|
| <b>Total Head count</b>         | 1    | 2    | 3    | 3    | 2    |
| ● 1 <sup>st</sup> Year of Study | 0    | 0    | 0    | 1    | 1    |
| ● 2 <sup>nd</sup> Year of Study | 0    | 0    | 1    | 1    | 1    |
| ● 3 <sup>rd</sup> Year of Study | 0    | 1    | 1    | 1    | 0    |
| ● 4 <sup>th</sup> Year of Study | 1    | 1    | 1    | 0    | 0    |
| <b>Reviewer's Comment:</b>      |      |      |      |      |      |

|   |  |
|---|--|
| <p>a. Indicate when admissions into program/specialization will be or were closed.</p> <ul style="list-style-type: none"> <li>● Admissions will be closed as of July 1, 2024.</li> </ul>  |  |
| <p>b. Briefly explain how the proposed end date of the suspension was determined.</p> <ul style="list-style-type: none"> <li>● There are 5 students currently registered, and the typical five-year suspension period will ensure adequate time for any necessary teach-out.</li> </ul>   |  |
| <p>c. Provide specific information about which internal governance body approved the suspension, and provide date of approval.</p> <ul style="list-style-type: none"> <li>● Department Council (EDPS) - April 8, 2022</li> <li>● Graduate Academic Affairs Council – November 7, 2022</li> <li>● FGPS - GPST - December 11, 2023</li> <li>● FGPS Council - January 17, 2024</li> <li>● GFC - Programs Committee - February 8, 2024</li> <li>● GFC Academic</li> </ul> |  |

|   |   |
|---|---|
| <p>Planning Committee (APC) - March 6, 2024</p> <ul style="list-style-type: none"> <li>● GFC - April 29, 2024</li> <li>● Board Learning, Research and Student Experience Committee (BLRSEC) - May 31, 2024</li> </ul> |   |
| <p>d. Check the applicable box to specify the longer-term plan.</p>   | <p><input checked="" type="checkbox"/> To terminate the program.</p> <p><input type="checkbox"/> To reactivate the program.</p> |

**SECTION B: ACCESS**

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| <p>a. Identify potential student access considerations and risks to the Alberta Adult Learning System that the suspension of this program could pose (include both (a) information about related programs available to prospective students internally at your institution; and (b) externally at other Alberta institutions).</p> <ul style="list-style-type: none"> <li>● Students wishing to complete advanced study and research in the area of Educational Policy Studies will continue to have access to the PhD specialization in Educational Policy Studies at the University of Alberta. And as previously mentioned, the Faculty of Education is developing a new course-based EdD in Educational Studies that, if approved, will provide opportunity and access for professional educators wishing to pursue an advanced degree and engage in work-related educational research.</li> <li>● In addition, parallel programs exist at Werklund (UCalgary) if students so choose.</li> </ul> |
| <p>b. If the program or specialization is unique in the province, briefly describe consultation within the Alberta Adult Learning System to investigate feasibility of program/specialization transfer.</p> <ul style="list-style-type: none"> <li>● The specialization is not unique in the province; the University of Alberta offers a PhD specialization in Educational Policy Studies.</li> </ul>   |
| <p>c. Briefly describe the consultation process that occurred with students at your institution regarding this programming change.</p> <ul style="list-style-type: none"> <li>● Conversations have occurred broadly across the Faculty over the past two years. Students were included in the larger conversations and also consulted separately, including some individual conversations.</li> <li>● First, we engaged in a doctoral survey of educational leaders and potential students beginning in 2017 that identified a clear desire for a course-based EdD program in the Faculty.</li> <li>● We engaged in town hall sessions with graduate students in the Faculty about the suspension of the specialization in Educational Policy Studies and the creation of a new one, better suited to student needs.</li> <li>● Students in the Educational Policy Studies specialization were provided with opportunities to attend town halls and consultations</li> </ul>                         |
| <p>d. Briefly describe your institution's plans to assist active students, if any remain, in completing graduation requirements during the suspension period, including information about formal communication and student advising plans.</p> <ul style="list-style-type: none"> <li>● The Faculty of Education will ensure that all active students that may remain in the program will receive continued support from advising staff and supervising faculty to</li> </ul>  |

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| ensure they can complete their program within the proposed period of suspension.   |
| e. Briefly describe your institution's plans to accommodate stop-out students, if any have been identified, including information about formal communication plans. <ul style="list-style-type: none"> <li>● No stop-out students have been identified.</li> </ul> |
| <b>Reviewer's Comment:</b>   |

**SECTION C: IMPACT**

|   |  |
|---|--|
| a. Identify which stakeholder groups were consulted regarding demand/need for this program:   |  |
| <input checked="" type="checkbox"/> Faculty<br><input type="checkbox"/> Regulator and/or accreditation bodies   | <input type="checkbox"/> Employers and professional associations<br><input checked="" type="checkbox"/> Advisory Committee(s)<br><input checked="" type="checkbox"/> Other: potential students |
| b. Briefly describe the consultation process conducted with these stakeholders and summarize the feedback received. <ul style="list-style-type: none"> <li>● Consultation with the field began with a Faculty of Graduate Studies and Research-funded doctoral microgrant in 2017, which recommended the creation of a new EdD specialization designed for professionals.</li> <li>● The micro-grant included interviews with competing programs and surveys of over 170 potential students. The survey was released in the summer of 2018 and received 170 responses between the 28th of May and the 25th of June. Of the 170 people who responded, 144 of those responses were able to be used in this analysis. From a demographic perspective, the majority of respondents came from Zone 2 / 3 in Alberta, are less than 100 kilometres from the University of Alberta (north campus), are currently employed as teachers, and have been teaching for 11 to 20 years. For those respondents who were interested in obtaining an EdD, 38% were interested in a program focused on leadership, followed by 19% interested in administration, 17% in curriculum, and 13% in health and wellness. All other specializations</li> </ul> |  |



received interest by less than 10% of respondents. Respondents indicated they would prefer an EdD program that would take 3 to 4 years, was offered in a blended format, was offered in a cohort model, and would prefer an "action research and extended report" project. Although, the majority who were interested in a blended format would also be interested in an online format, and vice versa. The majority of respondents also indicated that they felt it was very important or somewhat important to be able to take all courses at the University of Alberta. Over half of respondents have not explored other EdD options, 77% would be willing to pay a tuition premium, 68% do not have the option to take an educational leave from their place of employment, and 82% do not have any financial support from their employer.

- We also engaged in a Faculty wide consultation process that involved faculty members, ATS, students and staff. This process included multiple town halls, meetings with each of the specializations, including Policy Studies, and presentations to the Education Faculty Council. There was agreement about the confusion between the PhD and EdD specializations. Students in particular wished to see more clarity and a distinct differentiation between expectations and acceptability of final products (i.e. dissertation). Faculty and ATS shared that such clarity would enhance recruitment and the development of a new EdD specialization that is designed for working professionals would enhance the goals of the Faculty. Given the very low number of students in these EdD specializations, there were no concerns relating to the suspension and eventual closure of them.

c. Identify financial impacts and plans for reallocation of internal resources,

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| <p>particularly staff and classroom and lab space.</p> <ul style="list-style-type: none"> <li>Given the low numbers within this specialization in the past and the fact that the program was very closely aligned with the PhD specialization, no significant reallocations will be necessary with this suspension.</li> </ul> |  |
| <p><b>Reviewer's Comment:</b></p>  |  |

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| <p><b>RECOMMENDATION (FOR DEPARTMENT USE)</b></p> |
| <p><b>Recommendation(s):</b></p>                  |
| <p><b>Rationale for Recommendation:</b></p>       |
| <p><b>Reviewer(s):</b></p>                        |
| <p><b>Date Completed:</b></p>                     |

## Proposal Template: Program Suspension and Extension of Suspension

Use this template for proposals to suspend approved programs or specializations or to propose an extension to a current suspension.

Fill in the section below that is relevant to your proposal:

- Section A: if you are proposing a suspension of a ministry-approved program or specialization;
- Section B: if you are proposing an extension to a suspension previously approved by the ministry which is still in effect for a program or specialization.

Institutions should:

- ensure that submission content is concise. Any additional information may be appended;
- indicate “not applicable” when questions are not relevant to a particular proposal; and
- ensure that applicable supporting documents are attached to the proposal.

### Basic Information (all proposals must complete this section)

|  |                                  |
|--|----------------------------------|
| <b>Institution</b>                       | <b>University of Alberta</b>     |
| <b>Program Name</b>                      | <b>Doctor of Education (EdD)</b> |
| <b>Specialization Name</b>               | <b>Elementary Education</b>      |
| <b>Credential Awarded</b>                | <b>Doctor of Education</b>       |
| <b>Proposed start date of suspension</b> | <b>July 1, 2024</b>              |
| <b>Proposed end date of suspension</b>   | <b>June 30, 2029</b>             |

## SECTION A: PROGRAM SUSPENSION

### SECTION A: RATIONALE

#### 1. Suspension Rationale

- a. Identify the purpose for the suspension with supporting rationale and evidence (e.g., low student demand, declining labour market demand, institutional capacity, need for program redevelopment, quality assurance review recommendation, etc.).

The rationale for suspending the EdD specialization in Elementary Education is threefold. First, the Faculty of Education is developing a new, course-based Doctor of Education (EdD) in Educational Studies. This new EdD specialization is targeted towards working professionals/educators who are not interested in working in the academy but desire a higher degree to assist them in work related research, writing and thinking. Some of our competitors like the Universities of Calgary and Portland have robust EdD programs for professionals and there is room and desire for an innovative program in the Faculty of Education at the University of Alberta. University of Alberta Masters' graduates and contacts in the field have been asking for such a program[1]. Second, there has been considerable confusion and misinformation about the differences between the EdD and PhD within this specialization given the similarity in program requirements. Historically, more students have pursued the PhD option specifically in Elementary Education. Third, enrollment in the EdD specialization in Elementary Education has

been very low; there are no students currently registered, and the only student registered since 2019 completed their degree in 2022.

b. Document enrolments (by head count) for the most recent 5-year period, including the current academic year if available.

| Enrolment                       | 2023 | 2022 | 2021 | 2020 | 2019 |
|---------------------------------|------|------|------|------|------|
| <b>Total Head count</b>         | 0    | 0    | 0    | 0    | 0    |
| ● 1 <sup>st</sup> Year of Study | 0    | 0    | 0    | 0    | 1    |
| ● 2 <sup>nd</sup> Year of Study | 0    | 0    | 0    | 1    | 0    |
| ● 3 <sup>rd</sup> Year of Study | 0    | 0    | 1    | 0    | 0    |
| ● 4 <sup>th</sup> Year of Study | 0    | 1    | 0    | 0    | 0    |
| <b>Reviewer's Comment:</b>      |      |      |      |      |      |

a. Indicate when admissions into program/specialization will be or were closed.

- Admissions will be closed as of July 1, 2024.

b. Briefly explain how the proposed end date of the suspension was determined.

- There are no students currently registered, and the only student registered since 2019 completed their degree in 2022, thus the standard suspension period of 5 years will be sufficient.

c. Provide specific information about which internal governance body approved the suspension, and provide date of approval.

- Department Council (EDEL) - April 8, 2022
- Graduate Academic Affairs Council – November 7, 2022
- FGPS-GPST - December 11, 2023
- FGPS Council - January 17, 2024
- GFC - Programs Committee - February 8, 2024
- GFC Academic Planning Committee (APC) - March 6, 2024
- GFC - April 29, 2024
- Board Learning, Research and Student Experience Committee (BLRSEC) - May 31, 2024

d. Check the applicable box to specify the longer-term plan.

To terminate the program.

To reactivate the program.

## SECTION B: ACCESS

a. Identify potential student access considerations and risks to the Alberta Adult Learning System that the suspension of this program could pose (include both (a) information about related programs available to prospective students internally at your institution; and (b) externally at other Alberta institutions).

- Students wishing to complete advanced study and research in the area of Elementary Education will continue to have access to the PhD specialization in Elementary Education (historically the preferred option) at the University of Alberta. And as previously mentioned, the Faculty of Education is developing a new course-based EdD in Educational Studies that will provide opportunity and access for professional

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| educators wishing to pursue an advanced degree and engage in work-related educational research.  |
| <p>b. If the program or specialization is unique in the province, briefly describe consultation within the Alberta Adult Learning System to investigate feasibility of program/specialization transfer.</p> <p>The specialization is not unique in the province; the University of Alberta offers a PhD specialization in Elementary Education.</p>  |
| <p>c. Briefly describe the consultation process that occurred with students at your institution regarding this programming change.</p> <ul style="list-style-type: none"> <li>• Conversations have occurred broadly across the Faculty over the past two years. Students were included in the larger conversations and also consulted separately, including some individual conversations.</li> <li>• First, we engaged in a doctoral survey of educational leaders and potential students beginning in 2017 that identified a clear desire for a course-based EdD program in the Faculty.</li> <li>• We engaged in town hall sessions with graduate students in the Faculty about the suspension of current EdD specializations and the creation of a new one, better suited to student needs.</li> <li>• Students in the EdD specialization (EDPS) were provided with opportunities to attend town halls and consultations.</li> </ul> |
| <p>d. Briefly describe your institution's plans to assist active students, if any remain, in completing graduation requirements during the suspension period, including information about formal communication and student advising plans.</p> <ul style="list-style-type: none"> <li>• The Faculty of Education will ensure that the active students that may remain in the program will receive continued support from advising staff and supervising faculty related to the Calendar year in which they enrolled in the program to ensure they can complete their program within the proposed period of suspension.</li> </ul>  |
| <p>e. Briefly describe your institution's plans to accommodate stop-out students, if any have been identified, including information about formal communication plans.</p> <ul style="list-style-type: none"> <li>• No stop-out students have been identified.</li> </ul>  |
| <b>Reviewer's Comment:</b>   |

## SECTION C: IMPACT

|   |
|---|
| <p>a. Identify which stakeholder groups were consulted regarding demand/need for this program:</p> <p><input checked="" type="checkbox"/> Faculty <input type="checkbox"/> Employers and professional associations</p> <p><input type="checkbox"/> Regulator and/or accreditation bodies <input checked="" type="checkbox"/> Advisory Committee(s)</p> <p><input type="checkbox"/> Other (please identify)</p>  |
| <p>b. Briefly describe the consultation process conducted with these stakeholders and summarize the feedback received.</p> <ul style="list-style-type: none"> <li>• Consultation with the field began with a Faculty of Graduate Studies and Research-funded doctoral microgrant in 2017, which recommended the creation of a new EdD specialization designed for professionals.</li> <li>• The micro-grant included interviews with competing programs and surveys of over 170 potential students. The survey asking potential students about an alternative delivery EdD</li> </ul> |

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|---|
| <p>program at the University of Alberta, was released in the summer of 2018 and received 170 responses between the 28th of May and the 25th of June. Of the 170 people who responded, 144 of those responses were able to be used in this analysis. From a demographic perspective, the majority of respondents came from Zone 2 / 3 in Alberta, are less than 100 kilometres from the University of Alberta (north campus), are currently employed as teachers, and have been teaching for 11 to 20 years. For those respondents who were interested in obtaining an EdD, 38% were interested in a program focused on leadership, followed by 19% interested in administration, 17% in curriculum, and 13% in health and wellness. All other specializations received interest by less than 10% of respondents. Respondents indicated they would prefer an EdD program that would take 3 to 4 years, was offered in a blended format, was offered in a cohort model, and would prefer an "action research and extended report" project. Although, the majority who were interested in a blended format would also be interested in an online format, and vice versa. The majority of respondents also indicated that they felt it was very important or somewhat important to be able to take all courses at the University of Alberta. Over half of respondents have not explored other EdD options, 77% would be willing to pay a tuition premium, 68% do not have the option to take an educational leave from their place of employment, and 82% do not have any financial support from their employer.</p> <ul style="list-style-type: none"> <li>• We also engaged in a Faculty wide consultation process that involved faculty members, ATS, students and staff. This process included multiple town halls, meetings with each of the specializations including Elementary and presentations to the Education Faculty Council. There was agreement about the confusion between the PhD and EdD specializations. Students in particular wished to see more clarity and a distinct differentiation between expectations and acceptability of final products (i.e. dissertation). Faculty and ATS shared that such clarity would enhance recruitment and the development of a new EdD specialization that is designed for working professionals would enhance the goals of the Faculty. Given the very low number of students in these EdD specializations, there were no concerns relating to the suspension and eventual closure of them.</li> </ul> |
| <p>C. Identify financial impacts and plans for reallocation of internal resources, particularly staff and classroom and lab space.</p> <ul style="list-style-type: none"> <li>• Given the low numbers within this specialization in the past and the fact that the program was very closely aligned with the PhD specialization, no significant reallocations will be necessary with this suspension.</li> </ul>  |
| <p><b>Reviewer's Comment:</b></p>   |

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| <b>RECOMMENDATION (FOR DEPARTMENT USE)</b> |
| <b>Recommendation(s):</b>                  |
| <b>Rationale for Recommendation:</b>       |
| <b>Reviewer(s):</b>                        |
| <b>Date Completed:</b>                     |



**Decision**  **Discussion**  **Information**

**ITEM OBJECTIVE:** To approve the rescission of GFC Policy Manual Section 109.

|                              |                           |
|------------------------------|---------------------------|
| <b>DATE</b>                  | February 12, 2024         |
| <b>TO</b>                    | General Faculties Council |
| <b>RESPONSIBLE PORTFOLIO</b> | General Faculties Council |

**MOTION:** THAT General Faculties Council rescind Section 109 of the GFC Policy Manual.

**EXECUTIVE SUMMARY:**

Since 2008, University Governance has been working to complete the rescission of the General Faculties Council Policy Manual ("**GFC Policy Manual**").

Section 109 of the GFC Policy Manual was drafted to provide regulatory guidance with respect to:

1. the collection of information forming part of a student record;
2. the use and confidentiality of student records (and the information contained therein);
3. the retention of student records; and
4. the security afforded to student records.

Regulatory guidance with respect to the collection, use and disclosure of the personal information of students, the retention practices for such information, and the protection afforded to the same is now subsumed within the [University Regulations](#) published in the [University Calendar](#).

Attachment 1 to this Governance Outline tracks each of the subsections of Section 109 of the GFC Policy Manual and identifies where the substantive content of each such subsection can now be found in the *University Calendar*.

In the interests of clarity, and to resolve any confusion with respect to the current governing institutional regulations relating to student personal information, it is necessary to rescind Section 109 of the GFC Policy Manual.

**Supporting Materials:**

[Attachment 1 - Two-column GFC Policy Manual Section 109](#)

**SCHEDULE A:**

**Engagement and Routing**



**ITEM NO. 6**

Consultation and Stakeholder Participation / Approval Route (parties who have seen the proposal and in what capacity) <[Governance Resources Section Student Participation Protocol](#)>

Those who are actively **participating**:

- Office of the Registrar
- GFC Executive Committee

Those who have been **informed**:

- Office of the Provost and Vice-President (Academic)

**Approval Route:**

- GFC Executive Committee - February 12, 2024 (for recommendation)
- General Faculties Council - February 26, 2024 (for approval)

**Supplementary Notes / Context:**



**109. Student Records: Contents, Access, Use, and Protection**

Note from the University Secretariat: The Post-Secondary Learning Act gives General Faculties Council (GFC) responsibility, subject to the authority of the Board of Governors, over "academic affairs" (section 26(1)) and "general supervision of student affairs" (section 31). GFC has thus enacted a policy concerning Student Records, as set out below. This policy is compliant with the Province's Freedom of Information and Protection of Privacy Act (FOI/PA).

The complete wording of the section(s) of the Post-Secondary Learning Act, as referred to above, and any other related sections, should be checked in any instance where formal jurisdiction or delegation needs to be determined.

NOTE FROM THE UNIVERSITY SECRETARIAT: GFC Regulations concerning student records are contained in the Calendar with the exception of the following regulations. In accordance with a motion passed by the GFC Executive Committee on November 9, 1992, the academic regulations contained in the Calendar may not be changed without GFC approval.

| <b>GFC Policy Manual</b>   | <b>Other University References</b>  |
|--|---|
| <p>109.1 Collection of Personal Information</p> <p>Information that forms part of the student record is collected under the authority of the Post-Secondary Learning Act of the Province of Alberta and in accordance with Section 32(c) of the Alberta Freedom of Information and Protection of Privacy Act, (FOIPP Act). It is used to determine eligibility for admission and financial assistance, to advise students about academic programs and to provide university services. (GFC NOV 29 1999)</p> <p>The student record is disclosed to academic and administrative units. Specific information is disclosed to the federal and provincial governments to meet reporting requirements and to the Students' Union/Graduate Students' Association in accordance with FOIPP Information Sharing Agreements. (GFC NOV 29 1999)</p> | <p>Calendar - Collection of Personal Information<br/> <a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p> |

| <b>GFC Policy Manual</b>  | <b>Other University References</b>  |
|---|---|
| <p>109.2 Use and Confidentiality of Student Files</p> <p><b>109.2.10 Objections to Release of Information</b></p> <p>Students who object to the release of information regarding their records in accordance with the policy stated above should notify the Registrar in writing, giving the specific objection. Appropriate action will be taken by the Registrar who will so advise students. (GFC 28 JUN 1971)</p> | <p>Calendar - Objections to Release Information</p> <p><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p>                  |
| <p><b>109.2.11 Statutory Declaration Form</b></p> <p>A revised statutory declaration form for access to the student information system was considered and approved by the Executive Committee on April 27, 1998. The revised form is reproduced in Appendix 1 of this section. (EXEC 24 AUG 1987)</p>   | <p>Not referenced in Calendar.</p> <p>Informed Consent for Disclosure of Personal Information is available through Information and Privacy Office</p> <p><a href="https://www.ualberta.ca/information-and-privacy-office/forms.html">https://www.ualberta.ca/information-and-privacy-office/forms.html</a></p>                    |
| <p><b>109.2.1 Student Access</b></p> <p>Students' access to their own information is governed by the FOIPP Act. (GFC NOV 29 1999)</p>   | <p>Calendar - Access to Student Information</p> <p><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p>                      |
| <p><b>109.2.2 Student Records</b></p> <p>1. Official transcripts are issued by the Office of the Registrar and Student Awards only upon the request of the student. They are issued to the student personally or to</p>   | <p>Calendar - Academic History (Transcript) Records #3</p> <p><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22transcript%22&amp;returnto=search#student-">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22transcript%22&amp;returnto=search#student-</a></p> |

| <b>GFC Policy Manual</b>  | <b>Other University References</b>   |
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| <p>whomever the student designates. An official transcript bears the signature of the Registrar and the official seal of the University. (EXEC 3 NOV 1997)</p> <p>An unofficial transcript or copy of the student's academic record does not bear the Registrar's signature, nor is it printed on security paper. (GFC 29 NOV 1999)</p> <p>2. Unofficial copies of the student's academic record are issued in the form of:</p> <p>a. Statements of results issued to students at the end of the Fall/Winter and Spring/Summer terms. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> <p>b. Unofficial transcripts issued to students with their advance registration materials and at Convocation. ((EXEC 3 NOV 1997)</p> <p>c. Unofficial transcripts issued to Faculties, Departments or advisors as appropriate for consideration for admission, academic standing and promotion and for the academic advisement of students. (EXEC 3 NOV 1997)</p> <p>d. Unofficial copies may be issued at the student's request to other offices or individuals in the University. (EXEC 3 NOV 1997)</p> | <p><a href="#">records</a></p> <p>#8 of above website for information on unofficial transcripts</p> <p>Calendar refers students to Bear Tracks for unofficial transcript. No specific wording re “advance registration materials and at Convocation”. Information available on unofficial transcripts will be based on what’s available at</p> |



| <b>GFC Policy Manual</b>  | <b>Other University References</b>   |
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| <p>Protection of Privacy Act. (GFC 29 NOV 1999)</p> <p>Letters of reference will be used only for the express purpose(s) for which they have been supplied. (GFC 29 NOV 1999)</p> <p>Letters of reference will be retained for at least one year. (GFC 29 NOV 1999)</p> <p>The Provincial Commissioner of Information and Privacy has ordered that, in most cases, letters of reference in support of admission to the University must be released to the applicant.(EXEC 07 MAY 2001)</p> <p>NOTE FROM THE UNIVERSITY SECRETARIAT:</p> <p>Guidelines on student files and confidentiality are available from the University of Alberta Information and Privacy Office.</p> | <p>Information and Privacy Office (IPO) - Access to Letters of Reference<br/><a href="https://www.ualberta.ca/information-and-privacy-office/access-to-letters-of-reference.html">https://www.ualberta.ca/information-and-privacy-office/access-to-letters-of-reference.html</a></p> <p>NOTE: Calendar does not include information on releasing letters according to the Provincial Commissioner of Information and Privacy</p> <p>Access to Letters of Reference on the Information and Privacy Office website outlines <a href="#">Guidelines on Access to Letters of Reference for Admission to a Program of Study</a></p> |
| <p><b>109.2.4 General Assessment of a Student's Ability and Character</b></p> <p>Assessment information contained in a student's record may only be divulged by an administrative officer of the</p>  | <p>Calendar - Letters of Reference and Assessments of Students</p> <p>2. Assessments of Students<br/><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoi">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoi</a></p>   |

| <b>GFC Policy Manual</b>  | <b>Other University References</b>   |
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| <p>University to third parties (such as institutions, agencies or prospective employers) with the student's consent. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> <p>When asked by such institutions, agencies or prospective employers to express an opinion concerning a student's academic ability, character and personality, a faculty member may do so only with the consent of the student, in which case, a record of the opinion so expressed will be retained for a minimum of one year by the faculty member. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p>   | <p><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">d=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p>   |
| <p><b>109.2.5 Reports from University Health Centre or Student Counselling Services</b></p> <p>1. Where students have gone on their own initiative as patients to the University Health Centre, or as clients to Student Counselling Services, the contents of the students' files are private, in accordance with professional ethics or codes of behavior and protected by the FOIPP Act. (GFC 29 NOV 1971) (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> <p>2. Where a student has been referred by an authorized officer of the University to the University Health Centre or to Student Counselling Services, the consultant's opinion will be reported to the authorized officer if the student</p> | <p>Calendar - Letters of Reference and Assessments of Students</p> <p>3. Reports from University Health Centre and Student Counselling Services</p> <p><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p> |

| <b>GFC Policy Manual</b>   | <b>Other University References</b>  |
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| <p>gives written permission to do so. Such written permission shall be granted when the student signs a release form, the nature of which will be determined by the Service in question. It is recognized that the nature and content of any report provided by the consultant will be determined by the ethics and codes of behavior of the consultant's profession and will be protected by the FOIPP Act. (GFC 29 NOV 1971) (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> <p>3. When a student has authorized a consultant to release a report to an officer of the University under this section the student may have access to the report as guided by the FOIPP Act. (GFC 29 NOV 1971) (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> |   |
| <p><b>109.2.6 Records of Disciplinary Action</b></p> <p>NOTE FROM THE UNIVERSITY SECRETARIAT: Please see Section 30.2.15 of the Code of Student Behavior. (EXEC 12 MAR 2001)</p>   | <p>Calendar - Records of Disciplinary Action<br/><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p> <p>UAPPOL - <a href="#">Student Conduct Policy</a></p> <p>NOTE: Calendar refers to "Code of Student Behaviour" and provides link to "University Governance website". Governance website does not have reference/link to student behaviour document</p> |



| <b>GFC Policy Manual</b>  | <b>Other University References</b>  |
|---|---|
| <p><b>109.2.7 Colleges in Alberta</b></p> <p>The GFC Executive Committee delegated authority to the Registrar to release grade point averages for University of Alberta students who have attended colleges within the Alberta post-secondary system. This delegation is premised on the understanding that the information released to the student's former college would be used for statistical purposes only, in compliance with the Alberta Freedom of Information and Protection of Privacy Act and following the completion of an appropriate Information Sharing Agreement. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> | <p>NOTE: Calendar does not refer to this practice. It is not something that is normally done in the course of an academic cycle. Specific requests for such information would need to go through the Information and Privacy Office. No reference to Information Sharing Agreement in UAPPOL.</p>                                 |
| <p><b>109.2.8 Public Information Concerning Students</b></p> <p>The following information is defined as the student's public record: name; faculty of registration; dates of registration or convocation; and degree, diploma or certificate awarded. This information may be issued to third parties (such as other educational institutions, appropriate government agencies, or prospective employers) on a need to know basis. (GFC 29 NOV 1999)</p>  | <p>Calendar - Access to Student Information<br/>3. Access by Others<br/><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p> |

| <b>GFC Policy Manual</b>   | <b>Other University References</b>   |
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| <p><b>109.2.9 Use of Student Records for Research</b><br/>Access to and Use of Student Records and Information for Research by Associations, Organizations and Individuals (including access by other students)</p> <p>The Policy on Student Records: Contents, Access, Use and Protection of the GFC Policy Manual was approved by the Board of Governors on January 26, 2007 for inclusion in the University of Alberta Policies and Procedures On-Line (UAPPOL).</p> <p>Information Access &amp; Protection of Privacy Policy</p>           | <p>Calendar - Use of Student Records for Research<br/><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p> <p>UAPPOL<br/>Parent Policy: <a href="#">Access to Information and Protection of Privacy Policy</a><br/>Procedure (referred to in Calendar): <a href="#">Access to Personal Information for Research/Studies Procedure</a></p> |
| <p>109.3 Retention of Student Records<br/>A. Academic History (Transcript) Records</p> <p>Note: Student academic history records, up to and including Winter Session 1982, will be stored by the Office of the Registrar and Student Awards on microfilm. Later records are maintained on the student information system. (GFC 29 NOV 1999)</p> <p>1. Only the students' official academic history (transcript) will be kept indefinitely. Source information in the student file will be retained for seven years after last registration</p> | <p>Calendar - Academic History (Transcript) Records<br/><a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p>  |

| <b>GFC Policy Manual</b>   | <b>Other University References</b> |
|--|------------------------------------|
| <p>and then destroyed. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> <p>2. Students are responsible for ensuring the accuracy and completeness of their official record at the end of each period that they attend by verifying their Statement of Results and the copy of their transcript provided during registration and at convocation. Students should be aware that only the official academic history (transcript) is retained permanently and that source information from the student file is destroyed seven years after the last registration. Queries regarding errors or omissions on the official academic history must be made as soon as possible, and will not be considered after the source information has been destroyed. The University Archives will be provided the opportunity to selectively retain a sample of student records files before destruction. (GFC 29 NOV 1999)</p> <p>3. The Office of the Registrar and Student Awards will enclose a copy of the academic history record (unofficial transcript) with the parchment given to each graduating student, along with a letter asking the student to verify the record and report any problems immediately. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> <p>B. Other Student Records</p> |                                    |

| GFC Policy Manual  | Other University References  |
|--|--|
| <p>Each Faculty, Department and Unit will develop its own policy for retention and disposal of students' records in its custody or control in accordance with its own operating practice and the provisions of the Management of University Documents manual. These policies must recognize the necessity to maintain personal information regarding students for at least one year from the time it is used in a decision-making process concerning that student. (GFC 29 NOV 1999)</p> | <p>UAPPOL<br/> <a href="#">Records Management Policy</a><br/> <a href="#">How to destroy official University records (Records Disposition Guideline)</a><br/>           NOTE: neither of these documents speak directly to each faculty, department and unit developing its own policy. That could be due to everyone now falling under the general Records Management Policy.</p> |
| <p>109.4 Security of Student Records<br/>           The Faculty, Department and Unit must protect students' personal information by making reasonable security arrangements against such risks as unauthorized access, collection, use, disclosure or destruction. (EXEC 13 SEPT 1999) (GFC 29 NOV 1999)</p>   | <p>UAPPOL<br/> <a href="#">Access to Information and Protection of Privacy Policy</a><br/>           Does not specify "student records" directly but does state that the University will "[p]rotect <b>personal information</b> by making reasonable security arrangements against such risks as unauthorized access, use, disclosure or destruction"</p>                          |

| <b>GFC Policy Manual</b>  | <b>Other University References</b>   |
|---|--|
| <a href="#">Appendix 1 - Statutory Declaration and Confidentiality Agreement for Access to Student Information System</a> | IPO<br><a href="#">Informed Consent for Disclosure of Personal Information</a><br>This site also provides a link to the Informed Consent for Disclosure of Personal Information Form |

## 109. Student Records: Contents, Access, Use, and Protection

Note from the University Secretariat: The Post-Secondary Learning Act gives General Faculties Council (GFC) responsibility, subject to the authority of the Board of Governors, over "academic affairs" (section 26(1)) and "general supervision of student affairs" (section 31). GFC has thus enacted a policy concerning Student Records, as set out below. This policy is compliant with the Province's Freedom of Information and Protection of Privacy Act (FOIPP).

The complete wording of the section(s) of the Post-Secondary Learning Act, as referred to above, and any other related sections, should be checked in any instance where formal jurisdiction or delegation needs to be determined.

NOTE FROM THE UNIVERSITY SECRETARIAT: GFC Regulations concerning student records are contained in the Calendar with the exception of the following regulations. In accordance with a motion passed by the GFC Executive Committee on November 9, 1992, the academic regulations contained in the Calendar may not be changed without GFC approval.

## 109.1 Collection of Personal Information

Information that forms part of the student record is collected under the authority of the Post-Secondary Learning Act of the Province of Alberta and in accordance with Section 32(c) of the Alberta Freedom of Information and Protection of Privacy Act, (FOIPP Act). It is used to determine eligibility for admission and financial assistance, to advise students about academic programs and to provide university services. (GFC NOV 29 1999)

The student record is disclosed to academic and administrative units. Specific information is disclosed to the federal and provincial governments to meet reporting requirements and to the Students' Union/Graduate Students' Association in accordance with FOIPP Information Sharing Agreements. (GFC NOV 29 1999)

Calendar - Collection of Personal Information

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216&hl=%22student+record%22&returnto=search>

## 109.2 Use and Confidentiality of Student Files

### 109.2.10 Objections to Release of Information

Calendar - Objections to Release Information

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216&hl=%22student+record%22&returnto=search>

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| <p>Students who object to the release of information regarding their records in accordance with the policy stated above should notify the Registrar in writing, giving the specific objection. Appropriate action will be taken by the Registrar who will so advise students. (GFC 28 JUN 1971)</p> |  |
| <p><b>109.2.11 Statutory Declaration Form</b><br/> A revised statutory declaration form for access to the student information system was considered and approved by the Executive Committee on April 27, 1998. The revised form is reproduced in Appendix 1 of this section. (EXEC 24 AUG 1987)</p> | <p>Not referenced in Calendar.<br/> Informed Consent for Disclosure of Personal Information is available through Information and Privacy Office<br/> <a href="https://www.ualberta.ca/information-and-privacy-office/forms.html">https://www.ualberta.ca/information-and-privacy-office/forms.html</a></p> |
| <p><b>109.2.1 Student Access</b><br/> Students' access to their own information is governed by the FOIPP Act. (GFC NOV 29 1999)</p>   | <p>Calendar - Access to Student Information<br/> <a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p> |
| <p><b>109.2.2 Student Records</b><br/> 1. Official transcripts are issued by the Office of the</p>  | <p>Calendar - Academic History (Transcript) Records #3<br/> <a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=122">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=122</a></p>  |



Registrar and Student Awards only upon the request of the student. They are issued to the student personally or to whomever the student designates. An official transcript bears the signature of the Registrar and the official seal of the University. (EXEC 3 NOV 1997)

An unofficial transcript or copy of the student's academic record does not bear the Registrar's signature, nor is it printed on security paper. (GFC 29 NOV 1999)

2. Unofficial copies of the student's academic record are issued in the form of:

a. Statements of results issued to students at the end of the Fall/Winter and Spring/Summer terms. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)

b. Unofficial transcripts issued to students with their advance registration materials and at Convocation. ((EXEC 3 NOV 1997)

c. Unofficial transcripts issued to Faculties, Departments or advisors as appropriate for consideration for admission, academic standing and promotion and for the academic advisement of students. (EXEC 3 NOV 1997)

[16&hl=%22transcript%22&returnto=search#student-records](#)

#8 of above website for information on unofficial transcripts

Calendar refers students to Bear Tracks for unofficial transcript. No specific wording re "advance registration materials and at Convocation". Information available on unofficial transcripts will be based on what's available at the time

d. Unofficial copies may be issued at the student's request to other offices or individuals in the University. (EXEC 3 NOV 1997)

3. Unofficial copies of the student's academic record may be issued to the following at their request:

a. Student Counselling Services when a student has been referred for counselling by an authorized officer of the University; (EXEC 3 NOV 1997)

b. Student Awards Office, where an award made through a University scholarship committee is involved, on the understanding that information regarding the student's academic record will not be furnished to the scholarship donor without the student's consent. (EXEC 3 NOV 1997)

NOTE FROM THE UNIVERSITY SECRETARIAT:

Guidelines on student files and confidentiality are available from the University of Alberta Information and Privacy Office.

Calendar does not specifically state students can request unofficial transcripts for Counselling Services.

**109.2.3 Letters of Reference**

The contents of letters of reference collected

Calendar - Letters of Reference and Assessments of Students  
1. Letters of Reference

implicitly or explicitly in confidence with the consent of the student, for the purposes of determining admission to a program or the granting of an award, may be revealed to the student in accordance with the Alberta Freedom of Information and Protection of Privacy Act. (GFC 29 NOV 1999)

Letters of reference will be used only for the express purpose(s) for which they have been supplied. (GFC 29 NOV 1999)

Letters of reference will be retained for at least one year. (GFC 29 NOV 1999)

The Provincial Commissioner of Information and Privacy has ordered that, in most cases, letters of reference in support of admission to the University must be released to the applicant. (EXEC 07 MAY 2001)

NOTE FROM THE UNIVERSITY SECRETARIAT:

Guidelines on student files and confidentiality are available from the University of Alberta Information and Privacy Office.

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216&hl=%22student+record%22&returnto=search>

Information and Privacy Office (IPO) - Access to Letters of Reference

<https://www.ualberta.ca/information-and-privacy-office/access-to-letters-of-reference.html>

NOTE: Calendar does not include information on releasing letters according to the Provincial Commissioner of Information and Privacy

Access to Letters of Reference on the Information and Privacy Office website outlines [Guidelines on Access to Letters of Reference for Admission to a Program of Study](#)

### **109.2.4 General Assessment of a Student's Ability**

Calendar - Letters of Reference and Assessments of Students

### **and Character**

Assessment information contained in a student's record may only be divulged by an administrative officer of the University to third parties (such as institutions, agencies or prospective employers) with the student's consent. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)

When asked by such institutions, agencies or prospective employers to express an opinion concerning a student's academic ability, character and personality, a faculty member may do so only with the consent of the student, in which case, a record of the opinion so expressed will be retained for a minimum of one year by the faculty member. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)

### 2. Assessments of Students

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216&hl=%22student+record%22&returnto=search>

### **109.2.5 Reports from University Health Centre or Student Counselling Services**

1. Where students have gone on their own initiative as patients to the University Health Centre, or as clients to Student Counselling Services, the contents of the students' files are private, in accordance with professional ethics or codes of behavior and protected by the FOIPP Act. (GFC 29 NOV 1971)

Calendar - Letters of Reference and Assessments of Students  
3. Reports from University Health Centre and Student Counselling Services

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216&hl=%22student+record%22&returnto=search>

(EXEC 3 NOV 1997) (GFC 29 NOV 1999)

2. Where a student has been referred by an authorized officer of the University to the University Health Centre or to Student Counselling Services, the consultant's opinion will be reported to the authorized officer if the student gives written permission to do so. Such written permission shall be granted when the student signs a release form, the nature of which will be determined by the Service in question. It is recognized that the nature and content of any report provided by the consultant will be determined by the ethics and codes of behavior of the consultant's profession and will be protected by the FOIPP Act. (GFC 29 NOV 1971) (EXEC 3 NOV 1997) (GFC 29 NOV 1999)

3. When a student has authorized a consultant to release a report to an officer of the University under this section the student may have access to the report as guided by the FOIPP Act. (GFC 29 NOV 1971) (EXEC 3 NOV 1997) (GFC 29 NOV 1999)

### **109.2.6 Records of Disciplinary Action**

NOTE FROM THE UNIVERSITY SECRETARIAT:  
Please see Section 30.2.15 of the Code of Student

Calendar - Records of Disciplinary Action

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216&hl=%22student+record%22&returnto=search>

|   |   |
|---|---|
| <p>Behavior. (EXEC 12 MAR 2001)</p>   | <p>UAPPOL - <a href="#">Student Conduct Policy</a></p> <p>NOTE: Calendar refers to “Code of Student Behaviour” and provides link to “University Governance website”. Governance website does not have reference/link to student behaviour document</p>  |
| <p><b>109.2.7 Colleges in Alberta</b></p> <p>The GFC Executive Committee delegated authority to the Registrar to release grade point averages for University of Alberta students who have attended colleges within the Alberta post-secondary system. This delegation is premised on the understanding that the information released to the student's former college would be used for statistical purposes only, in compliance with the Alberta Freedom of Information and Protection of Privacy Act and following the completion of an appropriate Information Sharing Agreement. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)</p> | <p>NOTE: Calendar does not refer to this practice. It is not something that is normally done in the course of an academic cycle. Specific requests for such information would need to go through the Information and Privacy Office. No reference to Information Sharing Agreement in UAPPOL.</p>                                   |
| <p><b>109.2.8 Public Information Concerning Students</b></p> <p>The following information is defined as the student's public record: name; faculty of registration; dates of registration or convocation; and degree, diploma or certificate awarded. This information may be issued to third parties (such as</p>  | <p>Calendar - Access to Student Information<br/> 3. Access by Others<br/> <a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p> |

|   |   |
|---|---|
| <p>other educational institutions, appropriate government agencies, or prospective employers) on a need to know basis. (GFC 29 NOV 1999)</p>  |   |
| <p><b>109.2.9 Use of Student Records for Research</b><br/> Access to and Use of Student Records and Information for Research by Associations, Organizations and Individuals (including access by other students)</p> <p>The Policy on Student Records: Contents, Access, Use and Protection of the GFC Policy Manual was approved by the Board of Governors on January 26, 2007 for inclusion in the University of Alberta Policies and Procedures On-Line (UAPPOL).</p> <p>Information Access &amp; Protection of Privacy Policy</p> | <p>Calendar - Use of Student Records for Research<br/> <a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p> <p>UAPPOL<br/> Parent Policy: <a href="#">Access to Information and Protection of Privacy Policy</a><br/> Procedure (referred to in Calendar): <a href="#">Access to Personal Information for Research/Studies Procedure</a></p> |
| <p><b>109.3 Retention of Student Records</b><br/> A. Academic History (Transcript) Records</p> <p>Note: Student academic history records, up to and including Winter Session 1982, will be stored by the Office of the Registrar and Student Awards on</p>  | <p>Calendar - Academic History (Transcript) Records<br/> <a href="https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search">https://calendar.ualberta.ca/content.php?catoid=39&amp;navoid=12216&amp;hl=%22student+record%22&amp;returnto=search</a></p>  |

microfilm. Later records are maintained on the student information system. (GFC 29 NOV 1999)

1. Only the students' official academic history (transcript) will be kept indefinitely. Source information in the student file will be retained for seven years after last registration and then destroyed. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)

2. Students are responsible for ensuring the accuracy and completeness of their official record at the end of each period that they attend by verifying their Statement of Results and the copy of their transcript provided during registration and at convocation. Students should be aware that only the official academic history (transcript) is retained permanently and that source information from the student file is destroyed seven years after the last registration. Queries regarding errors or omissions on the official academic history must be made as soon as possible, and will not be considered after the source information has been destroyed. The University Archives will be provided the opportunity to selectively retain a sample of student records files before destruction. (GFC 29 NOV 1999)

3. The Office of the Registrar and Student Awards will enclose a copy of the academic history record



(unofficial transcript) with the parchment given to each graduating student, along with a letter asking the student to verify the record and report any problems immediately. (EXEC 3 NOV 1997) (GFC 29 NOV 1999)

#### B. Other Student Records

Each Faculty, Department and Unit will develop its own policy for retention and disposal of students' records in its custody or control in accordance with its own operating practice and the provisions of the Management of University Documents manual. These policies must recognize the necessity to maintain personal information regarding students for at least one year from the time it is used in a decision-making process concerning that student. (GFC 29 NOV 1999)

UAPPOL

[Records Management Policy](#)

[How to destroy official University records \(Records Disposition Guideline\)](#)

NOTE: neither of these documents speak directly to each faculty, department and unit developing its own policy. That could be due to everyone now falling under the general Records Management Policy.

#### 109.4 Security of Student Records

The Faculty, Department and Unit must protect students' personal information by making reasonable security arrangements against such risks as unauthorized access, collection, use, disclosure or destruction. (EXEC 13 SEPT 1999)

UAPPOL

[Access to Information and Protection of Privacy Policy](#)

Does not specify "student records" directly but does state that the University will "[p]rotect **personal information** by making reasonable security arrangements against such risks as unauthorized access, use, disclosure or destruction"

(GFC 29 NOV 1999)

[Appendix 1 - Statutory Declaration and Confidentiality Agreement for Access to Student Information System](#)

IPO

[Informed Consent for Disclosure of Personal Information](#)

This site also provides a link to the Informed Consent for Disclosure of Personal Information Form



**Decision**  **Discussion**  **Information**

**ITEM OBJECTIVE:** To approve the rescission of GFC Policy Manual Section 56.

|                              |                           |
|------------------------------|---------------------------|
| <b>DATE</b>                  | February 26, 2024         |
| <b>TO</b>                    | General Faculties Council |
| <b>RESPONSIBLE PORTFOLIO</b> | General Faculties Council |

**MOTION:** THAT General Faculties Council rescind Section 56 of the GFC Policy Manual.

**EXECUTIVE SUMMARY:**

Since 2008, University Governance has been working to complete a project to rescind the General Faculties Council Policy Manual (“GFC Policy Manual”). Section 56 of the GFC Policy Manual requires annual reporting of the work of the General Appeals Committee (“GAC”) to GFC, including a statistical summary of cases and their disposition. Rescinding Section 56 will have no impact on GFC Executive Committee (“EXEC”)’s 1977 decision that the General Appeals Committee be requested to report annually to GFC on

- (a) on the number of cases handled and their outcome, taking care to protect the confidentiality of appellants, and
- (b) upon any recommendations for modifications of the procedures followed by the General Appeals Committee which committee members might deem appropriate after their experience. [GFC 28/FEB/77 at p. 62]

Notwithstanding the information set out in GFC Policy Manual Section 56, this decision holds true until rescinded. The [GFC Policy Manual](#) Section 56 and its associated subsections 56.1 and 56.2 are not required to enforce annual reporting to EXEC as set out in the 1977 decision.

**BACKGROUND**

The General Appeals Committee was established through and by way of the Academic Staff Agreement that came into effect on July 1, 1976. The formation of the General Appeals Committee effected the dissolution of the Appeals Committee on Salaries and Promotions [EXEC 24/JAN/77].

At its meeting on January 24, 1977, EXEC approved a motion to recommend to GFC that the General Appeals Committee not be considered a Standing Committee of GFC, but a "creature of the Academic Staff Agreement". This was largely because, as observed by the committee, "[t]he Act requires that G.F.C. approve procedures for appointment, promotion and dismissal. The General Appeals Committee is concerned with the implementation of these procedures in specific cases as they relate to appointments and promotions." [EXEC 24/JAN/77 at p. 29] Specifically, the GFC EXEC committee characterized the General Appeals Committee as "...a contractual committee forming part of the contract between staff member[s] and the Board."



**ITEM NO. 7**

EXEC further recommended that the General Appeals Committee be requested to report annually to GFC (a) on the number of cases handled and their outcome, taking care to protect the confidentiality of appellants, and (b) upon any recommendations for modifications of the procedures followed by the General Appeals Committee which committee members might deem appropriate after their experience. [GFC 28/FEB/77 at p. 62]

GFC voted in favour of the General Appeals Committee ceasing to be considered a standing committee of GFC, but that it be asked to submit an annual report to GFC. [GFC 28/FEB/77 at p. 62]. The resolution of GFC from February 28, 1977 regarding the General Appeals Committee submitting an annual report is now codified in Section 56 of the GFC Policy Manual.

The deletion of Section 56 of the GFC Policy Manual does not ultimately impact the need for the General Appeals Committee to deliver an annual report. That requirement still exists by virtue of the GFC resolution on February 28, 1977. Section 56 of the GFC Policy Manual provides the "original authority" requiring the annual report be provided. That comes from the resolution itself and could only be changed by a resolution of GFC.

**SCHEDULE A:**

**Engagement and Routing**

**Those who are actively participating:**

- University Governance
- GFC Executive Committee

**Those who have been consulted:**

- University Office of the General Counsel
- Faculty Relations

**Those who have been informed:**

- Office of the Provost and Vice-President (Academic)

**Approval Route:**

- GFC Executive Committee - February 12, 2024 (for recommendation)
- General Faculties Council - February 26, 2024 (for final approval)

**Supplementary Notes / Context:**

The GFC Executive Committee has received annual reports from the General Appeals Committee since 1977.



Decision  Discussion  Information

**ITEM OBJECTIVE:** To approve the creation of a new Master of Management Analytics Program

|                              |                                       |
|------------------------------|---------------------------------------|
| <b>DATE</b>                  | February 26, 2024                     |
| <b>TO</b>                    | General Faculties Council             |
| <b>RESPONSIBLE PORTFOLIO</b> | Provost and Vice-President (Academic) |

**MOTION:**

THAT the General Faculties Council recommend that the Board of Governors approve the new Master of Management Analytics (MMA) program in the Alberta School of Business for implementation upon final approval.

**EXECUTIVE SUMMARY:**

Despite the increasing awareness of data's crucial role in business success, most firms have not effectively transformed their organizations to harness its full potential. This sobering fact is likely due to the realization that simply having data and computing capacity is not enough to make effective data-driven managerial decisions. There is a critical need for management training programs that align with the technological and social changes surrounding data utilization. Such programs are essential to equip individuals with the skills and knowledge required to make effective, responsible, competitive, and ethical use of data.

The Master of Management Analytics (MMA) program will focus on training managers to design, lead and execute data driven projects across organizations. The program is designed around four key pillars, each essential for a comprehensive understanding of business analytics. These pillars encompass business analytics fundamentals, providing a solid foundation; business analytics process and management, ensuring effective implementation; analytics applications across various business functional areas, demonstrating versatility; and experiential learning, offering hands-on, real-world experience.

The MMA is a 1-year program without internship and 16 months with internship, full-time, course-based master's degree program. This program is designed for students who have recently graduated with an undergraduate degree in STEM, and/or Business. The program will be conducted and offered through the Alberta School of Business (ASB), which boasts of a significant background in both research and teaching, particularly in areas where business and technology intersect. The program is led by the program's dedicated Academic Director from the ASB and will be overseen by an Advisory Committee consisting primarily of seasoned industry experts. These individuals play a pivotal role in shaping the program's curriculum, ensuring its alignment with real-world business needs, and maintaining its relevance in the dynamic field of analytics.

The program will be pioneering in the Prairie provinces, and our university is uniquely poised to address the existing skills gap. By doing so, we will actively contribute to the Government of

**GOVERNANCE OUTLINE**

**ITEM NO. 7**

Alberta's strategic vision, which places a strong emphasis on advancing innovation, prioritizing artificial intelligence (AI), and promoting technological diversification. The program's objective is to equip students with the skills to excel in the realm of big data, AI and machine learning (ML) enabling them to comprehend business obstacles, formulate effective solutions, and convey them to achieve the highest impact through data analysis.

Moreover, this proposed program is in perfect alignment with both the University's and the School of Business's strategic priorities. It complements the burgeoning AI and ML hub in Edmonton and throughout Alberta. Importantly, its development was a collaborative effort involving a diverse range of stakeholders, including industry experts, academics, students, alumni, and representatives from Equity, Diversity, and Inclusion (EDI), and Indigenous representatives.

The proposed program has considered both the needs of learners and the demand in the job market for such a degree. This was achieved by conducting external market research, consulting with industry experts, school of business faculty and staff, and soliciting input from students and alumni through surveys. Additionally, job market statistics have been incorporated into the program's planning.

In the first two years of the program, the goal is to enroll a minimum of 25 new students each year. The emphasis during this initial phase is on maintaining a manageable cohort size to ensure personalized attention and a high-quality education. This approach also allows for gathering feedback, making necessary adjustments, and progressively improving the program. In the third year, the plan is to incrementally increase the intake to 35 new students, reflecting a gradual scaling up of the program based on feedback and refinements from the initial years. As the program matures, in the fourth and fifth years, the aim is to further expand the annual intake to 50 and 75 students, respectively. This expansion aligns with the goal of extending the program's impact while ensuring that the capacity to provide a high-quality educational experience for a larger student cohort is in place, building on the experience and systems established in the previous years.

**Supporting Materials:**

Template A (System Coordination Review)

Template B (Campus Alberta Quality Council Review)

[Appendices 1-13](#)**SCHEDULE A:****Engagement and Routing**

Consultation and Stakeholder Participation / Approval Route (parties who have seen the proposal and in what capacity) <[Governance Resources Section Student Participation Protocol](#)>



Those who are actively participating:

- Dr. Vikas Mehrotra, Dean, Alberta School of Business
- Dr. Trish Reay, Vice-Dean, Alberta School of Business
- Dr. Michael Maier, Associate Dean, Masters programs and executive education, Alberta School of Business
- Dr. Borzou Rostami, Assistant Professor and Academic Director for MMA, Department of Accounting and Business Analytics, Alberta School of Business
- Roveena Mecwan, Program Coordinator,, Masters programs office, Alberta School of Business

Those who have been consulted:

- Members of the Office of the Provost and VP Academic (Janice Causgrove-Dunn, Carley Roth and Suzanne French)
- Dr. Tracy Raivio, GPS Dean
- Department of Accounting and Business Analytics faculty members
- Business community (Appendix 4A, B and C)
- Dr. Ali Shiri, Vice Dean, GPS
- Faculty of Business Department Chairs
- Students (Survey sent out to BCom and Masters' Students). Student representatives on the school's GSPC (Graduate Students Policy Committee).
- Carrie Smith, Vice-Provost (Equity, Diversity & Inclusion)
- Florence Glanfield, Vice-Provost (Indigenous Programming & Research)
- Edith Finczak, Director Academic Budget and Planning, Office of Provost and VP Academic
- Andrea Menard, Lead Educational Developer, Provost & Vice-President Academic, Centre for Teaching and Learning
- Lori Ireland, Educational Developer, Provost & Vice-President Academic - Centre for Teaching and Learning
- School of Business-Careers and Work Integrated Learning Team- Amber Nicholson, Paul Taylor and Melanie Tymofichuk
- Dr. Leo Wong, Associate Dean- Education, School of Business
- Heather Braid and Sara Rashidian, Office of Education, School of Business
- Yuliia Malanych, Finance Partner, School of Business
- Xiao Cheng, Director, Analysis and Admissions, MBA office
- Celine Gareau-Brennan, Business Librarian
- Graduate Student Policy Committee Members- School of Business
- Rebecca Liaw, Calendar Editor, Office of the Registrar
- RACF members

Those who have been informed:

- Business Council Members
- School of Business Faculty and Staff via town hall conducted.
- Andrea Riewe, Executive Coordinator, GPS
- Masters' Program Office Staff



Approval Route: Graduate Student Policy Committee (GSPC)- November 16, 2023

- Graduate Program Support Team (GPST): December 11, 2023
- Business Faculty Council: Approved January 8, 2024
- Faculty of Graduate and Postdoctoral Studies (GPS) Council: January 17, 2024
- RACF: January 23, 2024
- General Faculties Council (GFC) Programs Committee (PC): February 8, 2024

**Supplementary Notes / Context:**

Calendar copy for new proposed MMA program approved by Business Council- January 8, 2024



**Proposal Template: New Master’s and Doctoral Degree Programs  
(Part A: System Coordination Review)**

Complete this template for proposals for new master’s and doctoral degree programs or specializations.

Institutions should:

- ensure that submission content is concise. Any additional information may be appended;
- indicate “not applicable” in cases where questions are not relevant to the particular proposal; and
- ensure that applicable supporting documents are attached to the proposal.

**SECTION A: PROPOSAL OVERVIEW**

**Basic Information** *(Complete the table below)*

|                                |                                       |
|--------------------------------|---------------------------------------|
| <b>Institution</b>             | <b>University of Alberta</b>          |
| <b>Program Name</b>            | <b>Master of Management Analytics</b> |
| <b>Specialization Name</b>     | <b>Analytics</b>                      |
| <b>Credential Awarded</b>      | <b>Master of Management Analytics</b> |
| <b>Proposed Effective Date</b> | <b>Summer 2025</b>                    |

**1. Type of Initiative** *(Answer the following questions)*

*This is a proposal for (select one from the drop-down menu):*

New master's program

**SECTION B: OVERVIEW OF PROPOSED PROGRAM OF STUDY**

|   |
|---|
| <p><b>1. Program Description</b> <i>(Answer the following questions)</i></p>  |
| <p>a. Refer to Appendix 1 – a concise program description document that includes:</p> <ul style="list-style-type: none"> <li>• 3-4 sentence calendar description</li> <li>• whether the program is course-based or thesis-based</li> <li>• a proposed program of study including course names, descriptions, credits, and prerequisites, by year of study,</li> <li>• program location (i.e., campus locations), and delivery mode (i.e., face-to-face, online, or blended); and</li> <li>• program learning outcomes.</li> </ul> |
| <p>b. Identify any special requirements for accreditation/certification of the program.</p> <ul style="list-style-type: none"> <li>• The Alberta School of Business is the longest continuously accredited (by the Association to Advance Collegiate Schools of Business (AACSB)) business school in Canada. AACSB accreditation represents the highest standard of achievement for business schools worldwide and stands as a testament to the diversity of programs, research strength and career</li> </ul>                    |

development of alumni. The Alberta School of Business follows the continuous improvement guideline and reviews all its course curriculums every five years.

c. Where applicable, identify any collaborations with other institutions/organizations and whether there are synergies with other graduate programs at your institution.

- The Alberta School of Business is working closely with the Alberta Machine Intelligence Institute (AMii). Within this collaboration, AMii has been playing a significant role in supporting the program with the possibility of assisting delivery of an essential course on Responsible AI and Ethics, and will actively participate in conducting the introductory bootcamp. Furthermore, leveraging their expertise as industry leaders, AMii could potentially provide guidance and support to the School of Business in the process of securing capstone projects. Collaboration and consultations with AMii are ongoing.
- The Master of Management Analytics targets recent graduates of quantitative undergraduate degrees such as STEM, computer science, economics, or business, including students with a Bachelor of Commerce concentrating in business analytics, business technology management or other quantitative areas from within the Alberta School of Business and other institutions as well.

**Reviewer's Comment:**

**2. Work Integrated Learning (WIL) (e.g. internships, clinical placements) (If applicable, answer the following questions)**

a. Specify which program learning outcomes map into WIL components of the program.

Work Integrated Learning (WIL) components are integrated throughout our Master's program in Management Analytics to ensure students can apply academic learning to real-world professional contexts. The following are the program learning outcomes that map directly into the WIL components of the program:

- **Practical Application of Theoretical Concepts:** The coding bootcamp, capstone project, and optional internships all provide opportunities for students to apply the theoretical knowledge gained in class to practical, industry-based scenarios. This enhances their understanding of how coding and data analytics play out in real-world business contexts. Moreover, the experiential pillar, including two, 8-week internships, a capstone management analytics project, and potential community engagements, offers students the platform to apply classroom-learned concepts to genuine professional scenarios. This approach facilitates a thorough understanding of how analytics theories translate into business practice.
- **Proficiency in Analytics Tools and Techniques:** Through hands-on projects and exposure to actual business data and analytics software in the WIL components, students develop a robust command of analytics tools and techniques. This proficiency is crucial for performing efficient and effective business analytics tasks in a professional setting.
- **Critical Thinking and Problem-Solving Skills:** Real-world business problems encountered during the course projects, internships and the capstone project bolster students' abilities to employ data analytics for informed problem-solving and decision-making.

- **Professional Communication and Collaboration Skills:** The case studies, group-based course projects, and the experiential pillar of the program encourage teamwork and require students to present their findings and insights to peers, faculty, and potentially industry professionals. This experience enhances students' ability to communicate complex management analytics concepts clearly and effectively and to collaborate productively with diverse teams.
- **Ethical Considerations in Data Analytics:** Through the WIL components, students are exposed to real-world scenarios where they must consider and navigate ethical issues related to data collection, analysis, and use. This reinforces the program's learning outcome of understanding and applying ethical standards in business analytics.

- b. Identify the number of placements required in the program (including evidence that placements will be available when needed).
- The new Master of Management Analytics program is expected to start with a cohort of about 25-30 students in its initial years, offering both internship and non-internship paths. We anticipate planning for around 15 internship placements, as the initial cohort size is smaller. Although students will be responsible for finding their own internships, our work integrated learning team will offer support to help them secure positions that align with their professional ambitions and personal needs.
  - Preliminary discussions with potential employer partners, such as AMii , AltaML, ATB Financial have shown a positive response and a readiness to support students for placements. We aim to establish partnership agreements with these employers and more to ensure a steady availability of placements for our students.

### **Supports for Student Placements**

If students are selected for the internship stream, they are responsible for finding their own work term and are subject to employer interview processes. Our CWIL team also sources internship opportunities which are posted on the careerconnect website for students to choose and apply. These opportunities can be located in Edmonton or other Canadian cities as well. Additionally, there are a large number of supports in place to set students up for success in securing the internship and throughout its duration.

For example, CWIL provides students with support in developing their resumes and interview skills, while continually building relationships with employers to understand trends and what employers are looking for. CWIL staff will work to connect employers and students to find the right internship opportunity, while paying careful attention to the individual circumstances and experiences. Working with students in order to learn about their skills and strengths will also help ensure all students have equitable access to opportunities.

Additionally, CWIL offers a range of career exploration, experiential learning and employer networking events and programming to help students connect with prospective internship employers. Below are employment statistics of our BCom, MBA and Master of Accounting graduates.

- Our Work-Integrated Learning (WIL) team is actively engaged in posting opportunities on our Career Connect websites. From September 2020 to September 2021 Careers and Work Integrated Learning posted a total of 1,450 postings for over 500 employers.<sup>1</sup> Internship opportunities are posted on the careerconnect portal.

Fig 1: Bachelor of Commerce Employment Statistics 2018-2022

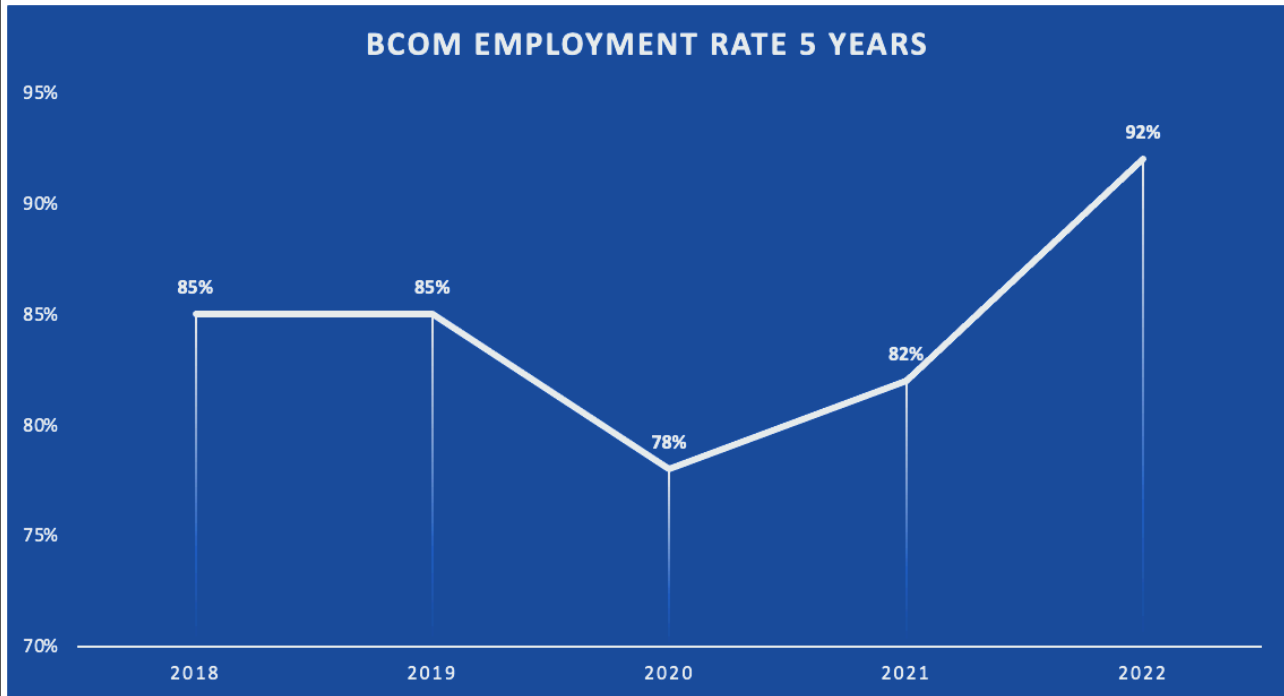
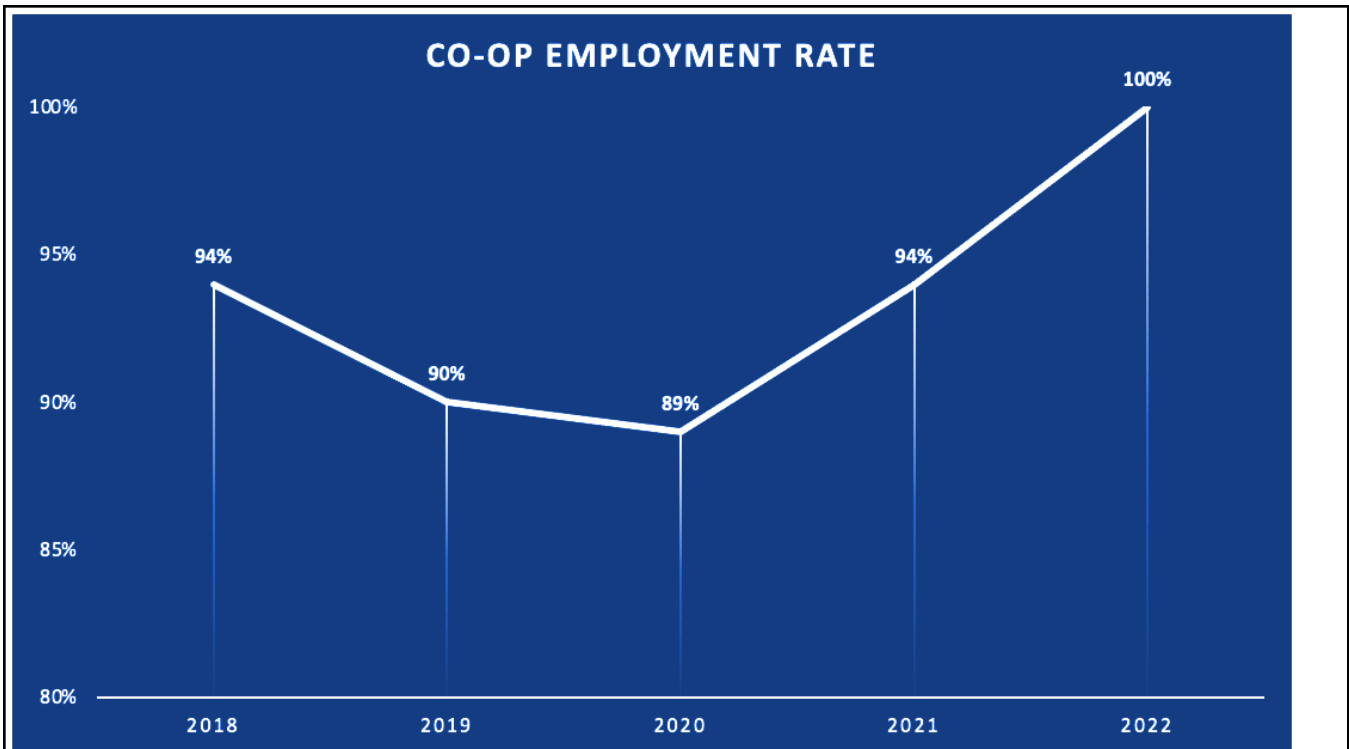


Fig 2: Co-op employment rate 2018-2022

<sup>1</sup> [Employment Statistics | Alberta School of Business](#)



- The MMA advisory committee will also actively engage in conducting networking sessions with industry professionals.
- As substantiated by our MBA employment report for 2022, 84% of our full-time graduates secured employment within three months of graduation.<sup>2</sup>
- The Master of Accounting students have been employed at organizations like PricewaterhouseCoopers (PWC), Klynveld Peat Marwick Goerdeler (KPMG), Ernst and Young (EY), Origami, Royal Bank of Canada (RBC), Meyers Norris Penny (MNP), Grant Thornton, Colby-Steckly.<sup>3</sup>

c. Comment on whether/how WIL placements in other programs may be impacted as a result of this program.

- Currently this is the only Master's program offered by the Alberta School of Business with a specific focus on management/data analytics. The MBA program is the only other Masters-level program with an internship component, and, due to its interdisciplinarity MBA internships target applicants from a broad range of fields; therefore, a significant overlap is not anticipated. The timing of these internship offerings are also offset with the proposed Master of Management Analytics work terms offered from September to December, and MBA internships from May to August.

<sup>2</sup>[ASB Employment Report](#)

<sup>3</sup>[Organizations Represented | Alberta School of Business](#)

- The scope of work would also be different for students who participate in undergraduate level data analytics internships, as compared to those studying at a Master's level. We anticipate employer agreements may also help to delineate opportunities for these populations.

**Reviewer's Comment:**

## SECTION C: ENROLMENT PLANNING

### 1. (a) Projected Student Enrolment *(Complete the table below as applicable).*

- Below, Table 2 outlines our projected full-time enrollment strategy for the proposed Master of Management Analytics. The rationale behind the progression is:
  - **Year 1 and Year 2:** We plan to enroll a minimum of 25 new students in each of the first two years. As a newly established program, our initial priority is to maintain a manageable cohort size to ensure personalized attention and high-quality education for each student. This will also allow us to gather feedback, make necessary adjustments, and progressively enhance the program's effectiveness based on our experiences with the initial cohorts.
  - **Year 3:** In the third year, we aim to incrementally increase the intake to 35 new students. This reflects our intention to gradually scale up the program, capitalizing on the improvements and refinements implemented based on feedback from the first two years.
  - **Year 4 and Year 5:** By the fourth and fifth years, we plan to further expand our annual intake to 50 and 75 students, respectively. This increase aligns with our objective to extend the program's impact and reach, whilst being confident of our capacity to provide a high-quality educational experience for a larger student cohort. This growth will be sustained with the experience and systems put in place in the previous years.

• Table 2: PROJECTED FULL-TIME ENROLLMENT

| Proposed Enrolment/year | No. of Students (without Internship) | Continuing Students | Total (Anticipated No. of Graduates) |
|-------------------------|--------------------------------------|---------------------|--------------------------------------|
| • Year 1                | 25                                   | 0                   | 25                                   |
| • Year 2                | 25                                   | 0                   | 25                                   |
| • Year 3                | 35                                   | 0                   | 35                                   |
| • Year 4                | 50                                   | 0                   | 50                                   |
| • Year 5                | 75                                   | 0                   | 75                                   |

**Reviewer's Comment:**

\*Note that the numbers of continuing students are zero as this is a one-year program, therefore, each academic year starts with a new cohort. This ensures a consistent and comprehensive learning journey for all students in a given year.

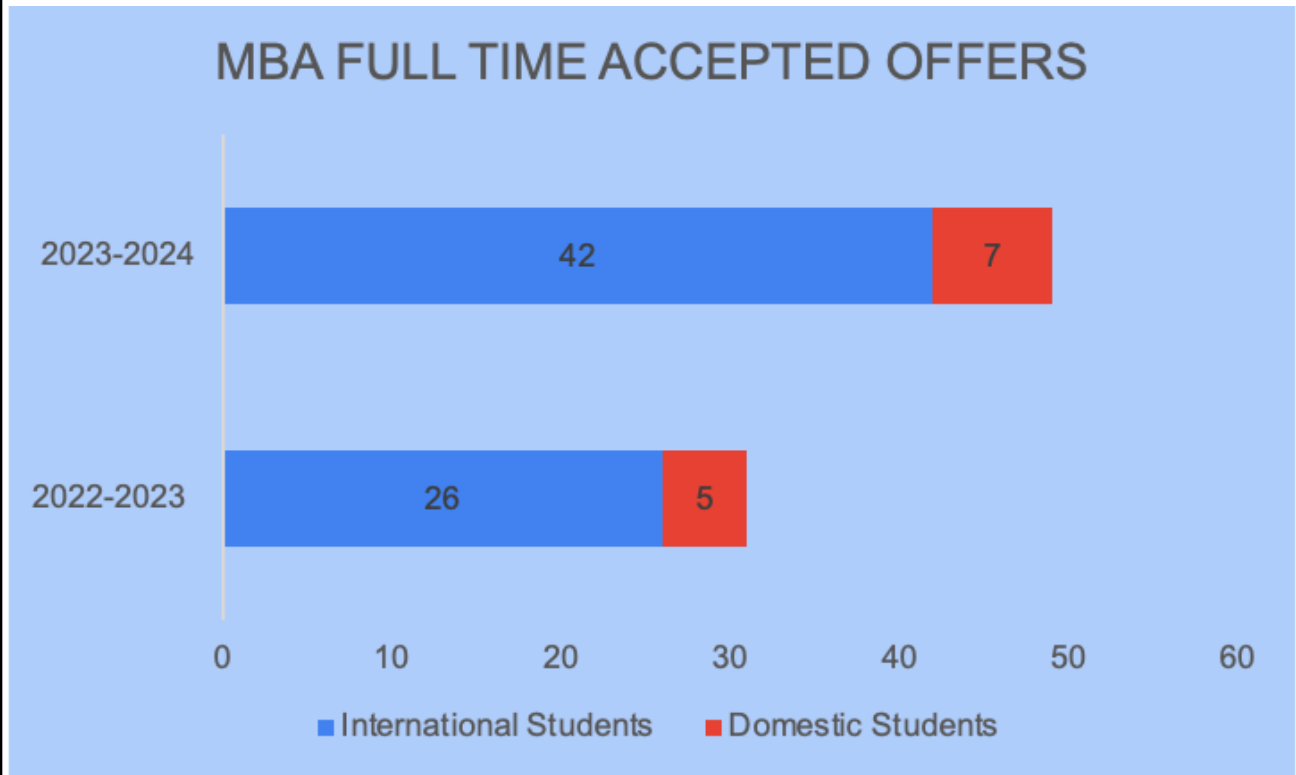
\*Students who choose to opt for an internship to gain experiential learning will add an additional 4 months to the program before graduation making it a total of 16 months. No additional credit for choosing this option.

- a. Indicate the percentage of international students in the enrolment projections and provide a rationale regarding how the percentage was established.
- The University of Alberta School of Business has consistently tries to pursue a 50:50 ratio of domestic to international students in our MBA program, usually with an average class size of approximately 60 students. We anticipate commencing with a smaller cohort size for the proposed Master of Management Analytics in the initial two years, and remain committed to achieving a diverse blend of domestic and international students. Please note that due to a number of factors outside of the University's control, this ratio may fluctuate from year to year and, therefore, cannot be assured.
  - Our examination of other Canadian institutions offering analogous programs has revealed that international students constitute a substantial portion of their current analytics cohort sizes (please refer to Appendix 2A and 2B).
  - Within the Alberta School of Business BCom program, 18.42% are international students and 81.58% are domestic students.
  - The historical enrollment data for international students in our MBA program highlights its current popularity among students from around the world, as evidenced by the graphs below. The University is confident that the introduction of the proposed Master of Management Analytics program will further enhance our well-established reputation.
  - Therefore, we anticipate roughly 40% of international students in the MMA program.

**Fig. 3: International Students MBA Full-time Applications 5-year Summary Statistics**

**Source: Alberta School of Business, Masters' Program Office**

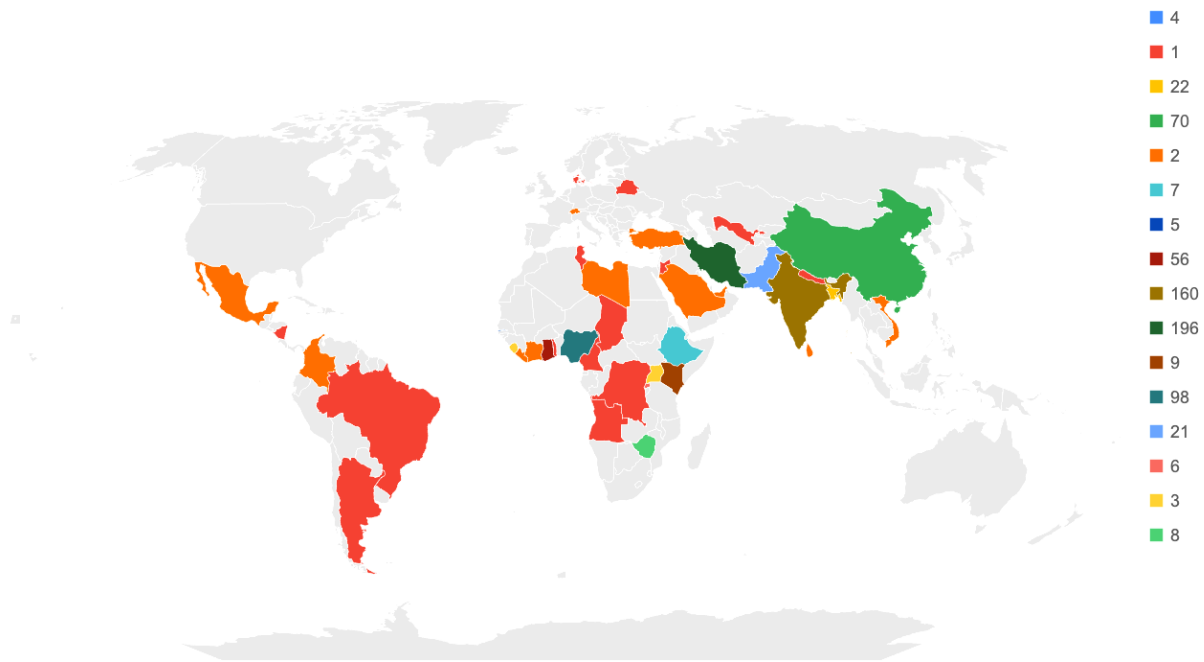
Fig. 4: Full-Time MBA International/Domestic Students per Cohort 2022-2024



- The map below illustrates that Bangladesh, China, Ghana, India, Iran, Nigeria, and Pakistan are the primary source countries responsible for a significant portion of our Master's program applications. Secondary source countries encompass nations such as: Afghanistan, Colombia, Ethiopia, Gambia, Kenya, Rwanda, Uganda, and Zimbabwe. This data indicates the possibility of future expansion and potential interest emerging from these countries.



SOURCE COUNTRIES-INTERNATIONAL STUDENTS



Powered by Bing  
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**Source Countries for International Applications (MBA full time, Master of Accounting, MBA/JD dual degrees)**

- As of August 31, 2023, the Masters' Program Office recorded a total of 836 applications for all masters programs. Notably, 701 of these applications, accounting for 84%, are from international candidates.

Additionally, the proposed program includes an introductory boot camp component, which can be especially beneficial for students as they embark on their academic journey. Finally, the Work Integrated Learning opportunities, such as the capstone project, offer students valuable hands-on work experience within Canada.

b. Briefly comment upon whether the program is primarily designed to:

i. cater to graduates of your institution

- This program is designed to cater to individuals possessing undergraduate degrees in STEM and/or business, and have aspirations to build careers in the fields of business analytics, machine learning (ML), data visualization, and artificial intelligence. Additionally, it serves as an excellent fit for professionals already engaged in such roles, offering them the chance to augment their skill set and acquire a well-rounded knowledge foundation that can propel their careers to new heights.
- Prospective students can be categorized into distinct groups, each with quantitative backgrounds in STEM, economics, or business disciplines. This includes those at the

undergraduate or graduate level at the University of Alberta who are looking to expand their comprehension of both the technical and managerial aspects of business analytics.

- Below, Figure 3 illustrates the comparison between the number of students registered and the total available seats for undergraduate-level courses focused on analytics.

Fig 3: OM 420 Predictive Business Analytics Course Demand

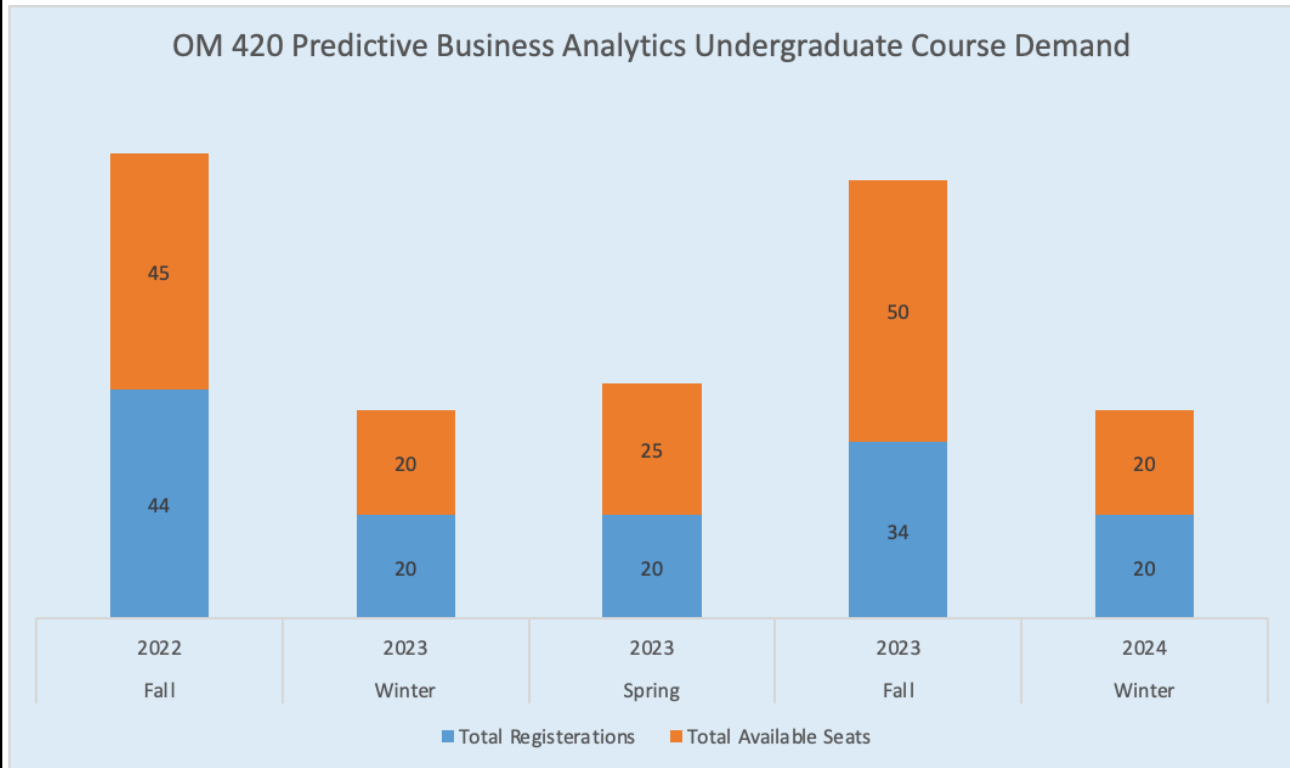
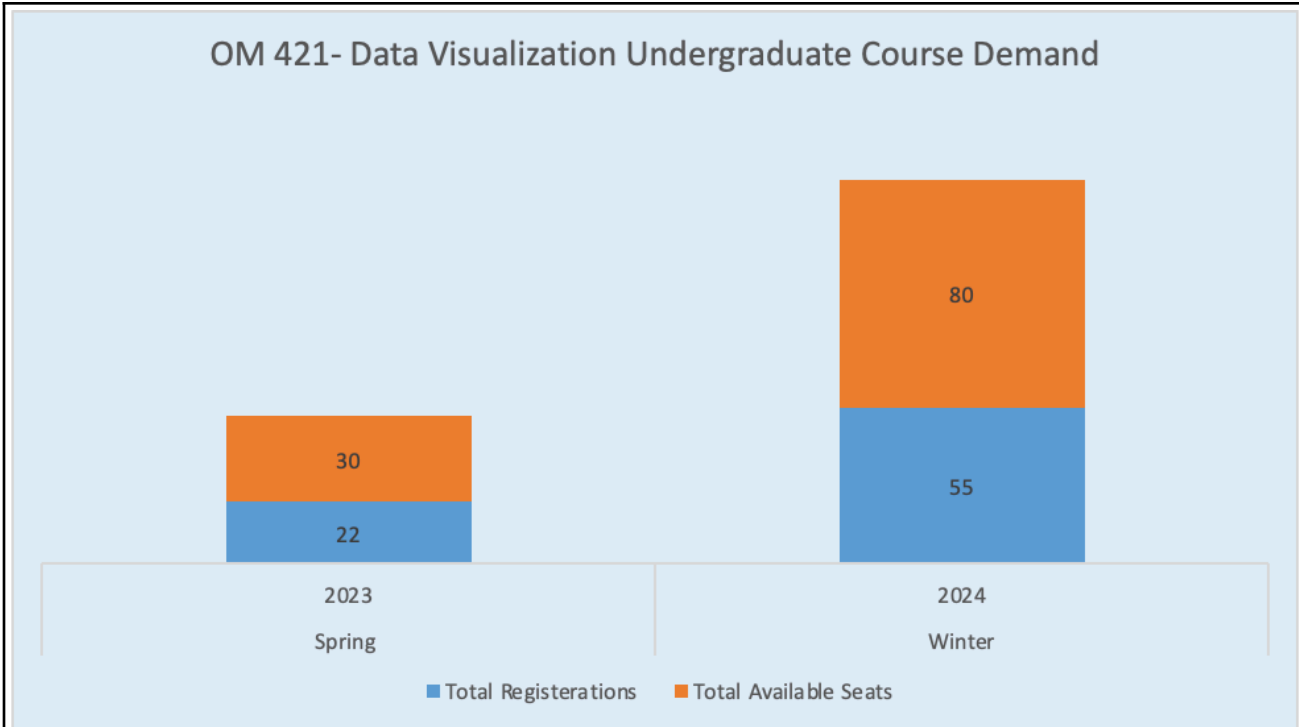


Fig 4: OM 421 Data Visualization Undergraduate Course Demand



ii. to meet a local demand

- The program is strategically situated to meet the demands of the expanding ML, innovation, and AI hub within the province. Recognizing that ML and business analytics are applicable in diverse industries, this program is crafted to address the skills gap essential for such roles, not only within the province but also nationwide in Canada. The overarching objective in launching this program is to deliver top-tier education while fostering crucial soft skills necessary for effective business leadership. This program will help retain graduates within the province while also fulfilling the workforce requirements of businesses across the entire country.
- Alberta is currently missing out on an important educational opportunity as it lacks a Master of Management Analytics program that goes beyond mere data analysis. Such a program would focus on harnessing data-driven insights to aid business decision-making, encompassing a wider range of activities like forecasting, predictive modeling, optimization, and using data to address specific business challenges and propel strategic initiatives.
- Additionally, Alberta is a world leader in post-secondary research across multiple sectors such as: agriculture and agri-foods, energy, health sciences, advanced technology, and more where these skill sets can be applied. The province is also recognized as a hotspot for innovation, and is one of the three major hubs for AI in Canada.

- The University of Alberta ranks third in terms of research that is heavily focused on AI and machine learning.<sup>4</sup>
- Edmonton is also home to the “Alberta Machine Intelligence Institute (AMii) that envisions and supports world-class research and training; growing machine intelligence capacity in business; creating a network of global innovators; and boosting machine intelligence literacy in business.”<sup>5</sup>
- Edmonton.ai is a community-based organization established with the aim of fostering the growth of 100 AI and ML companies in Edmonton. This initiative is driven by the notable achievements of researchers, educational institutions, and professionals in the region. It is evident that the job prospects in the field of AI and ML are poised for significant growth and advancement in Edmonton.<sup>6</sup>

iii. to meet a national demand

The realm of analytics finds practical application across a wide array of industries, leading to the existence of numerous job titles within this field. The career opportunities for analysts are incredibly diverse, as virtually every industry requires their expertise, including healthcare, aviation, media, finance, consulting, technology, and more.

- Our investigation into the job outlook for a specific role, that of "database analysts," as conducted on the jobbank.ca website, indicates that this occupation is poised to face a shortage of skilled professionals in the coming decade, spanning from 2022 to 2031.<sup>7</sup>
- Moreover, when performing a specific keyword search across various job titles on the jobbank.ca website, the results demonstrate a demand for positions related to "analyst, business management" throughout Canada, falling within the "Good to very good" range. Notably, the Prairie provinces exhibit a particularly high demand, rated as "Very good." Comparable outcomes were observed when conducting a keyword search for "Management Analysts."<sup>8</sup>
- The proposed Master in Management Analytics aligns with the thriving business intelligence and ML industry and community in the Edmonton region, extending its impact across the entire province and benefiting both students and the wider community within the Prairie provinces and nationwide.
- It's worth highlighting that no other business school in Alberta presently offers a program like this, positioning it as a pioneering initiative within the region.

iv. meet an international demand (some points cover national demand)

- Despite the growing demand trend for business/management analytics graduates, the admission rates for top North American business analytics programs remain highly competitive. According to the Graduate Management Admission Council (GMAC), the

<sup>4</sup> <https://edmonton.ai/>

<sup>5</sup> [About | Alberta Machine Intelligence Institute](#)

<sup>6</sup> [Edmonton.AI](#)

<sup>7</sup> [Job prospects Database Analyst in Canada](#)

<sup>8</sup> [Jobbank outlook.](#)

demand for business analytics programs has increased significantly in recent years. The reports published by GMAC show that the number of applications for graduate management education (GME) has increased globally in 2020 and 2021 compared to the previous years<sup>9</sup>. In 2022, Canadian programs received a median of 4.4 applications per seat and accepted a median of 37 percent applicants<sup>10</sup>. This means that the acceptance rate is even lower for more trending and prestigious programs. For example, the admission rate at Massachusetts Institute of Technology's (MIT) Master of Business Analytics is 4%<sup>11</sup>. The University of Southern California (USC) is expected to have an acceptance rate of 12.4% for 2023-2024<sup>12</sup>. Canadian business schools also receive many more inquiries and applications than they can accept. Queen's University, for instance, is accepting 30 to 40% of its applicants<sup>13</sup>, and the York University graduate acceptance rate is 11%<sup>14</sup>. The University of British Columbia's Sauder School of Business accepts only 6% of applicants.<sup>15</sup>

- According to the Bureau of Labor Statistics, there is a projected 36% increase in employment for data scientists by 2031. Additionally, findings from the GMAC Corporate Recruiters Survey, which represents the perspectives of nearly 1,000 corporate recruiters and staffing firms worldwide, indicate that 92% of corporate recruiters and 95% of staffing firms have plans to hire new business analysts. This same report also demonstrates a high level of confidence, with 87% of corporate recruiters expressing confidence, or even high confidence, in the ability of business schools to prepare students for success in their organizations.<sup>16</sup>
- According to a LinkedIn report, business analytics ranks among the top 10 most sought-after skills by employers worldwide. The same report highlights that Python, SQL, and data analysis are considered highly desirable hard skills in demand<sup>17</sup>
- Figure below shows that a masters degree in analytics is one of the rising areas of study.<sup>18</sup>

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<sup>9</sup> [GMAC Report- Increase in Graduate Applications](#)

<sup>10</sup> [GMAC Survey-Median Applications](#)

<sup>11</sup> [MIT Master of Business Analytics Acceptance Rate](#)

<sup>12</sup> [university-of-southern-california acceptance rate](#)

<sup>13</sup> [Queen's Acceptance Rate](#)

<sup>14</sup> [York Acceptance Rate](#)

<sup>15</sup> [UBC Acceptance Rate](#)

<sup>16</sup>

<sup>17</sup> [The Most In-Demand Skills for 2023 | LinkedIn](#)

<sup>18</sup> [Rising areas of study](#)

## RAPIDLY RISING AREAS OF STUDY

### FASTEST-GROWING DEGREES



#### Bachelor's Degrees PUBLIC HEALTH NURSING

For the third year, this program is one of the two fastest-growing bachelor's programs in the nation. The lingering impact of COVID-19 and increased attention to reducing health disparities have fueled strong student interest in public health/community nursing.



#### Master's Degrees INTELLIGENCE

After several years of rapid growth at the undergraduate level, the intelligence field is now experiencing booming interest among graduate students.

### FASTEST-GROWING FIELDS



#### Bachelor's Degrees PUBLIC SERVICE

Half of the nation's fastest growing undergraduate programs are in fields that would contribute to the community or public good.



#### Master's Degrees DATA ANALYTICS

The rapid expansion of data available to organizations in support of their missions has fueled a cottage industry of analytics. Both business statistics and management science programs are developing graduates to meet this need.

### EMERGING FIELDS



#### Bachelor's Degrees PHARMACEUTICAL SCIENCES

With stagnating demand for PharmD programs, pharmacy schools are giving increased attention to the undergraduate student market.



#### Master's Degrees HUMAN BEHAVIOR

The range of programs focused on human behavior speaks to student motivations and research applications to improve people's quality of life through therapeutic, business, and social science approaches.

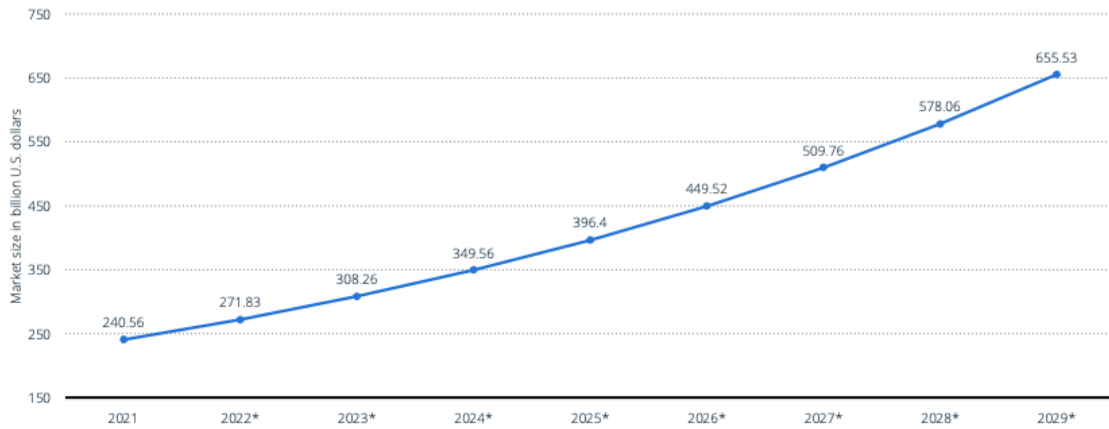
### Reviewer's Comment:

## 2. Learner and Labour Market Demand *(Answer the following questions)*

- a. Provide evidence of labor market demand for graduates, detailing how such demand was forecasted and substantiated regionally and provincially. (Append supporting documentation, as appropriate.)
- The proposed Master of Management Analytics will equip students with a comprehensive and interdisciplinary curriculum that covers topics such as data management, data analysis, data visualization, business intelligence, and decision-making. The program responds to the high demand for graduates with data science and analytical skills in today's job market, as employers from diverse sectors and regions look for talent who can leverage data to drive innovation and growth.
  - The global big data market is indeed a rapidly growing industry, and the figures provided reflect significant growth potential. See the breakdown included below:

### Size of the big data analytics market worldwide from 2021 to 2029 (in billion U.S. dollars)

Global big data analytics market size 2021-2029



Note(s): Worldwide; 2021  
Further information regarding this statistic can be found on [page 8](#)  
Source(s): Fortune Business Insights; Statista; [ID 1336002](#)

6

statista

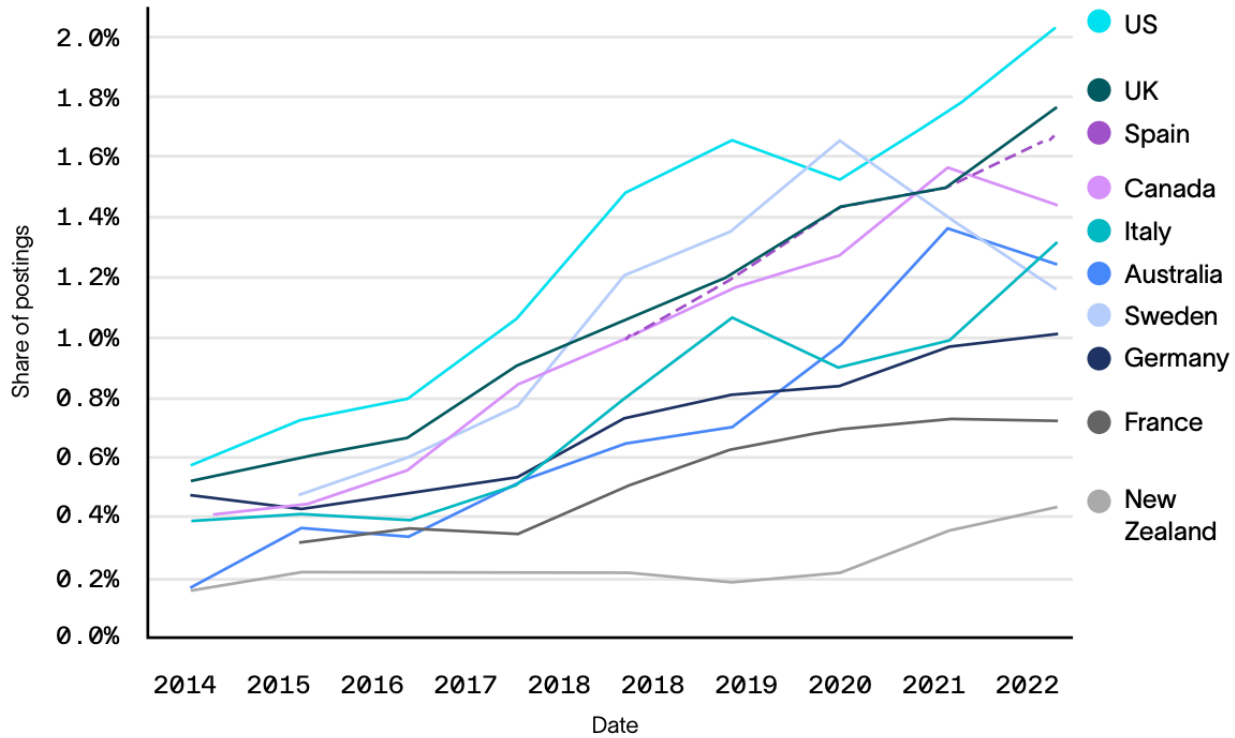
- Data visualization has seen a rise in popularity across various professions, gaining significance even in roles unrelated to conventional data-focused careers. Examples include actuary, compensation and benefits manager, talent acquisition manager, tax specialist.<sup>19</sup>
- The realm of AI is generating fresh employment opportunities, with a growing demand for skills associated with it. Since 2014, the number of AI-related jobs has tripled in the United States, United Kingdom, and Canada.<sup>20</sup>

Fig 5

<sup>19</sup> [Shifting Skills, Moving Targets, and Remaking the Workforce](#)

<sup>20</sup> [AI Job Postings Worldwide](#)

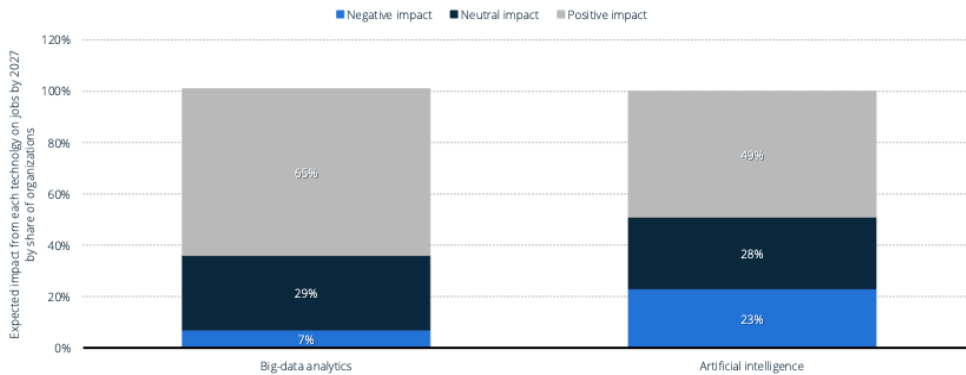
### AI share of total postings



Source: [Lightcast](#)

### Impact expected from AI and big-data analytics on jobs by companies worldwide from 2023 to 2027

Global impact of AI and big-data analytics on jobs 2023-2027



Note(s): Worldwide; November 2022 - February 2023; 803 global companies; Responses represent over 11.3 million employees worldwide. Further information regarding this statistic can be found on [page 8](#). Source(s): World Economic Forum; [ID 1383919](#)

2

statista



- The figure above shows that artificial intelligence and big data analytics will have a positive global impact on jobs.<sup>21</sup>
- Business Analysts job falls under top 5 job postings in various cities of Canada. Refer Appendix 3 A-F
- A search on indeed.com using the keywords "predictive analytics jobs" yielded a total of 351 job listings spanning across various locations in Canada, displaying various job titles.<sup>22</sup>
- Another keyword "analytics" search yielded a total of 8862 job listings spanning across various locations in Canada, displaying various job titles.<sup>23</sup>
- A search for "business analysts" jobs across Canada produced a total of 1,770 job listings, showcasing a variety of innovative job titles within the general category.<sup>24</sup>
- The demand for a relatively recent role, that of Chief Data Officers (CDOs), is steadily increasing. Organizations are actively seeking individuals for this position to lead teams in maximizing the effective utilization of data. The appointment of individuals to this job role at 2500 publicly listed firms has seen a global increase, rising from 21% in 2021 to 27% in 2022.<sup>25</sup> In recent years, this role has garnered heightened attention, particularly as large organizations aim to incorporate an effective data strategy as a crucial component of their broader digital transformation initiatives.
- Management Analysts are also considered amongst the top 5 job occupations by volume<sup>26</sup>
- As per a recent report released by MIT, Chief executives are increasingly expecting their technology investments, including those in data and AI, to yield greater value and productivity for their organizations than in the past. The survey results also state various sectors adapting to the use of AI/ML technologies at a greater speed. These sectors include, retail, energy, telecommunications, healthcare, financial services, manufacturing, media, and government/public sectors. <sup>27</sup>
- See the table below, listing the top 10 industries that rely on data and analytics based skills to make informed decisions:

| Industry | Job Role |
|----------|----------|
|----------|----------|

<sup>21</sup> [Positive Impact on Jobs](#)

<sup>22</sup> [Predictive Analytics Job Roles](#)

<sup>23</sup> [Analytics Job Postings](#)

<sup>24</sup> [Business Analysts Job Postings Canada](#)

<sup>25</sup> [Share of leading global firms with a CDO 2022 | Statista](#)

<sup>26</sup> [Top Career Skills Report.](#)

<sup>27</sup> [MIT Survey](#)

|                              |   |
|------------------------------|---|
| Healthcare                   | Enables predictive analytics for patient care and resource allocation.  |
| Finance and Banking          | Enhances risk assessment, fraud detection, and investment strategies.   |
| E-commerce                   | Personalizes recommendations, optimizes supply chains, and tracks customer behavior.  |
| Manufacturing                | Optimizes production processes, quality control, and predictive maintenance.  |
| Retail                       | Improves inventory management, customer insights, and demand forecasting.   |
| Telecommunications           | Enhances network optimization, customer experience, and market analysis.  |
| Mining and Quarrying         | There are many phases of the mining process where data analytics can be put to practical use. The mining industry is increasingly using advanced analytics (AA) and AI applications to optimize processes, enhance decision-making, derive value from data, and improve safety. |
| Energy and Utilities         | Enables energy consumption monitoring, grid management, and asset maintenance.  |
| Transportation and Logistics | Optimizes route planning, fleet management, and supply chain visibility.  |
| Media and Entertainment      | Personalized content recommendations and measures audience engagement.  |
| Government and Public Sector | Enhances policy formulation, resource allocation, and citizen services.   |

**b.** Identify which stakeholder groups were consulted regarding demand/need for this program:

- ✓ Student/learners
- ✓ Faculty
- ✓ Employers and professional institutions
- ✓ Community Organizations

✓ Other post-secondary institutions  
Program advisory committee  
Regulator and/or accreditation bodies

- c. Summarize the results of the identified consultations and attach supporting documentation (e.g., minutes of meetings, letters of support, etc.), when available.
- See Appendix 4 A, B and C for internal and external consultations
  - Letters of Support See Appendix 12 (More to be received)
- d. Provide evidence of student demand for the program. (e.g., survey results, waitlists, demand in similar programs at other institutions etc.).
- External research into Canadian educational institutions has revealed that nearly every university's school of business offering graduate programs includes a program similar to the one we are proposing, with the notable exception being the Prairie region. Among the top institutions in the country offering such programs are the University of Toronto's Rotman School of Management, Queen's University's Smith School of Business (who recently celebrated 10 years of their MMA program), York University's Schulich School of Business, McGill University's Desautels Faculty of Management, the Ivey Business School, and the Sauder School of Business at the University of British Columbia (see Appendix 5 for program comparison table)..
  - These existing programs typically maintain an average class size of approximately 60 students each year. Furthermore, employment reports from these institutions consistently indicate near-perfect employment rates for their graduates, approaching 100%. (See Appendices 2A,2B for class size.). This not only reflects the high demand from students, but also underscores the strong demand for graduates by employers in the field.
  - According to a recent report, there is a notable surge in demand for master's degrees in analytics, making it one of the most rapidly expanding academic programs. This trend is driven by students' desire to enter the swiftly growing field of data related employment opportunities.<sup>28</sup>
  - Similar trends have been observed in institutions in the United States as well. Highly regarded institutions like the McCombs School of Business at the University of Texas at Austin and the Marshall School of Business at the University of Southern California have reported receiving a substantial number of applications for their programs<sup>29</sup>
  - According to a 2022 report from the Ministry of External Affairs, Government of India, there are currently 1,324,954 Indian students pursuing their education in 79 foreign countries, making it one of the most extensive international student populations globally of which Canada is second on the list of top five preferred destinations. <sup>30</sup>The majority of these students gravitate towards STEM fields and finance and business studies. With the rise of technologies such as the Metaverse, Blockchain, and AI-driven platforms, there is an

<sup>28</sup> [Demand for Masters Degree in Analytics](#)

<sup>29</sup>

[What does the future hold for master's degree programs in business analytics? | Fortune](#)

<sup>30</sup> [Top 5 Study Abroad Destinations for Indian Students - Times of India](#)

increasing interest among Indian students in studying AI and ML abroad. The survey indicates that nearly 24% of these students show an inclination towards pursuing advanced technologies overseas. Additionally, contemporary specializations like Business Analytics, Data Analytics, Cybersecurity, Digital Marketing, and Ecotechnology are becoming popular alongside the conventional MBA courses.<sup>31</sup>

- Appendix 6 includes student comments received from the current Alberta School of Business student survey.
- A recent report highlights an increasing demand for master's degree programs that equip students with the skills to make informed decisions using data.<sup>32</sup> Figure below:

## DEGREES RISING TO THE TOP

### FASTEST-GROWING DEGREES



#### Bachelor's Degrees **ECONOMETRICS AND QUANTITATIVE ECONOMICS**

As the field of economics becomes more empirical and employers increasingly seek workers with quantitative skillsets, econometrics programs have grown in popularity.

### FASTEST-GROWING FIELDS



#### Bachelor's Degrees **MULTI/INTERDISCIPLINARY PROGRAMS**

Four of the top 10 fastest-growing undergraduate degrees are multi- or interdisciplinary, revealing student interest in programs that combine the study of multiple fields.

### EMERGING FIELDS



#### Bachelor's Degrees **SUSTAINABILITY**

Sustainability-focused undergraduate programs have become more popular because of growing public awareness about environmental concerns. Relatedly, as interest in green building grows, more students are demanding programs in architecture and building sciences.



#### Master's Degrees **BEHAVIORAL SCIENCES**

Increasing awareness of how human behavior affects business, policy, and everyday life has fueled growth for graduate programs in the interdisciplinary field of behavioral sciences.



#### Master's Degrees **ANALYTICAL AND DATA-BASED PROGRAMS**

Graduate programs in analytical and data-based fields, including cyber operations and database administration, have grown in popularity as students prepare to enter rapidly evolving



#### Master's Degrees **MANAGEMENT SCIENCES**

As businesses increasingly seek ways to make data-driven decisions, graduate programs in management science and related fields are seeing increased student demand.

- The table presented below provides a comprehensive summary of comparator institutions that have introduced degree programs similar to ours and the dates when they launched these programs. This table highlights the fact that analytics is not a newly emerging skillset; instead, the demand for it has been evident for over a decade. It underscores that both domestic and international students seek this skillset. Therefore, it is crucial for the Alberta School of Business to address these evolving demands by offering this highly sought-after degree as soon as possible.

| Institution  | First Cohort/Launch Date |
|--|--------------------------|
| Rotman school of management, University of Toronto | Fall 2018 <sup>33</sup>  |

<sup>31</sup> [Courses that top the list for Indian students planning to study abroad - The Economic Times](#)

<sup>32</sup> [Demand for degrees offering skills specific to data driven decision making](#)

<sup>33</sup> [The Management Analytics Practicum Fall presentations](#)

|   |  |
|---|--|
| Smith school of Business, Queen's University              | Fall 2013 (Celebrated 10 year anniversary September 2023) <sup>34</sup>  |
| Sauder School of Business, University of British Columbia | Fall 2017 <sup>35</sup>  |
| Ivey Business School, Western University                  | Fall 2021 <sup>36</sup>  |
| Desautels School of Management, McGill University         | Summer 2018 <sup>37</sup> . Also, expanded the degree to a complete online delivery format in September 2023 <sup>38</sup> |
| Schulich School of Business, York University              | First Canadian business school to launch in 2012 <sup>39</sup>   |

e. Identify and discuss any additional factors that may impact student demand for this proposed program.

- Interprovincial migration
- Growing tech hub in Edmonton and Alberta
- As mentioned, a master's degree in analytics is highly sought after by students.

f. Comment on the overall sustainability of learner demand for this program over the longer term.

- Analytics is not just an industry per se; it is a highly specialized profession that holds relevance across multiple industries. As businesses continually strive to make well-informed decisions to foster future growth, the proposed program becomes a valuable opportunity for both recent graduates and working professionals to augment their skill sets and amass a wealth of knowledge that can significantly propel their careers within the business realm.
- For students with little to no prior experience, who aspire to enter the analytics field, this program provides a diverse range of choices when it comes to industry preferences. Likewise, for working professionals seeking to switch industries, the enhanced skills acquired through this program can be instrumental in facilitating a successful transition.
- Given the small cohort size in the initial years and Edmonton's as well as Alberta's increasing status as a ML/AI/technology center in Canada, the learner demand sustainability of the proposed Master of Management Analytics is strong. The program's elective course offerings and the ability to add new in-demand electives provide flexibility to remain current with changes in this industry.

g. Describe how the enrolment plan takes into account relevant labor market demand and societal benefit factors.

<sup>34</sup> [Smith School of Business Launch](#)

<sup>35</sup> [UBC Sauder launches UBC Master of Business Analytics](#)

<sup>36</sup> [Ivey launches advanced masters degree for analytics professionals | News & Events](#)

<sup>37</sup> [Specialty graduate degrees spring up to meet emerging needs - The Globe and Mail](#)

<sup>38</sup> [McGill University expands its business analytics degree with online delivery](#)

<sup>39</sup> [Schulich launches new Master of Science in Business Analytics program - Research & Innovation](#)

- The Master of Management Analytics program offers significant societal benefits by enhancing the skills of individuals in the Edmonton and Alberta regions. The province of Alberta is growing and developing exponentially. It enables some to acquire a more profound understanding and expertise in data analytics, machine learning and artificial intelligence, while others can transition into this field. Additionally, the program is attractive to students due to its program duration, the inclusion of a real world capstone project that prepares students for employment and its ability to position graduates in the booming technological development market not only in Alberta but also nationwide.

**Reviewer's Comment:**

## SECTION D: GRADUATE OUTCOMES AND PATHWAYS

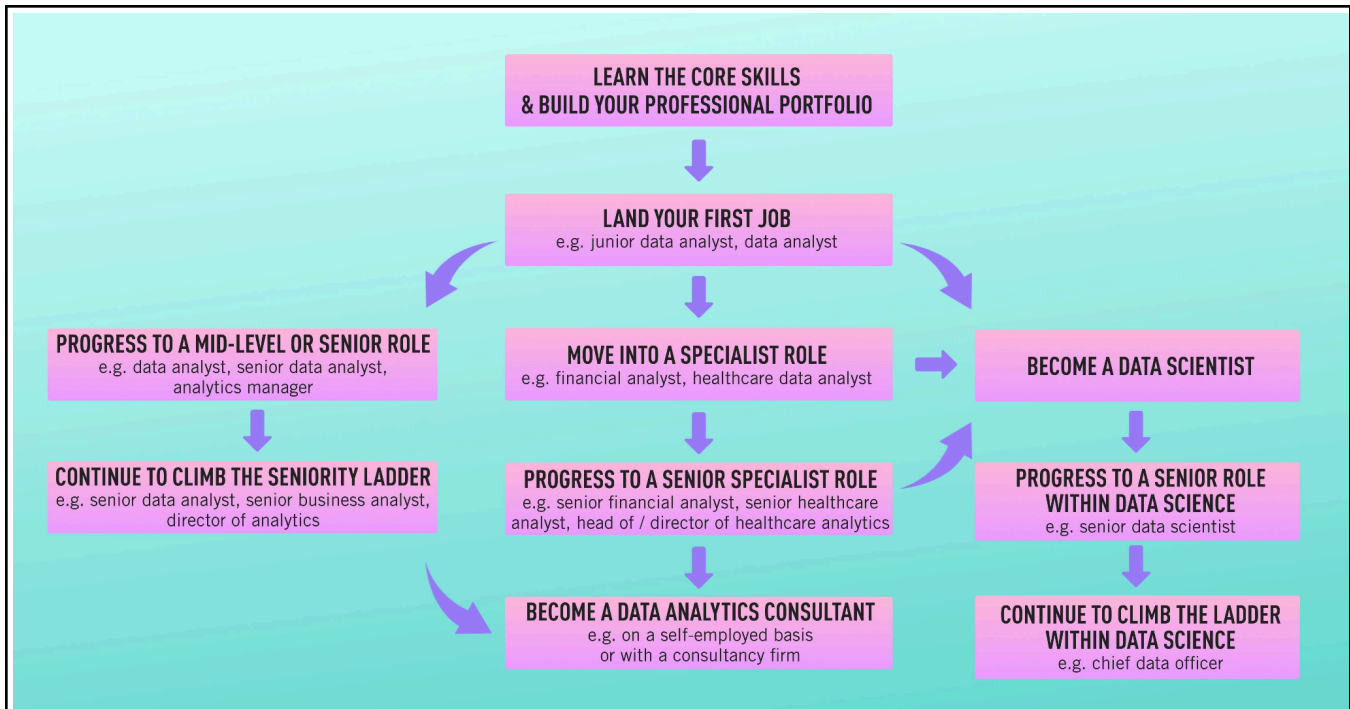
### 1. Employment Outcomes *(Answer the following questions)*

- a. Are the majority of graduates expected to enter directly into the labor market upon graduation or continue on to further study? (Elaborate as needed).
- The program anticipates that a significant portion of its graduates will directly enter the workforce. This expectation is based on the program's practical curriculum, which is highly relevant to the increasing demand for analytical roles in most industries. These roles necessitate both technical expertise and management skills to make data-driven decisions that drive business growth.
  - A master's degree in management analytics is designed to serve as a robust foundation for entering the analytics field or further advancing the careers of individuals who already possess experience in this domain. Graduates from this program will find employment opportunities across a wide spectrum of industries, including but not limited to manufacturing, financial and insurance services, retail, healthcare, information technology, public administration, education, and research and development.
- b. What types of academic/professional positions does the proposed program prepare graduates for?
- This degree program is crafted to offer students an immersive experience in the most cutting-edge concepts and practices. Through a carefully designed curriculum, tailored to their career aspirations, students are empowered to stay at the forefront of knowledge in the dynamic fields of global business and artificial intelligence, analytics, machine learning and data-driven decision-making.
  - Below are just a few examples, and the job titles can vary depending on the specific industry and organization. A Master's in Management Analytics provides a versatile skill set that can be applied to a wide range of roles in various sectors. Some more sample roles include:

\*Source: Employment reports of comparator institutions and job postings on Indeed.com

- Manager, Fraud Analytics
- Senior Associate, Venture Capital
- Business Insights Analyst
- Data Engineer
- Project Manager
- Application Architect
- Business Intelligence Officer
- Product Management
- Management Analyst
- Machine Learning Engineer
- Data Architect
- Statistician
- Chief Technology Officer
- Product Owner
- Senior Analysts
- Technology Consultants
- Senior Business Intelligence Consultant
- Students can also utilize the Master of Management Analytics degree and learnings/skillset to venture into entrepreneurship by contributing to Alberta's booming ML/AI startup ecosystem.
- Anticipating that our graduates will be exceptionally well-prepared for future career opportunities, we recognize that this program confers a significant advantage. A management analytics degree is uniquely versatile, appealing to a wide array of industries and employers. It equips students with highly sought-after technical skills, including proficiency in machine learning and optimization. Importantly, these technical skills are not merely theoretical but are harnessed to deliver tangible results in real-world contexts.
- In addition to career opportunities in various industries, students interested in pursuing further academic studies have the option to pursue a Ph.D. with a specialization in Operations and Information Systems at the Alberta School of Business.
- For industry professionals seeking new avenues, the possibility of securing lecturer positions can be explored, particularly in analytics courses, at the University of Alberta.
- Graduates with a Master's in Management Analytics can hold various job titles depending on their specific roles and responsibilities within organizations. (See appendix 7)
- In conclusion, an MMA degree equips graduates with the capabilities to enter the analytics field even without prior experience, enhances existing skills to pave the way for career advancement, provides opportunities for further academic pursuits and careers in academia, and fosters innovation and entrepreneurship. (For information on the entrepreneurship component refer to section 2b.)
- The image below shows a typical career path for an analytics professional:





\*Source: [What is the Typical Data Analyst Career Path? \[2023 Guide\]](#)

These are just a few examples, and the job titles can vary depending on the specific industry and organization. A Master's in Management Analytics provides a versatile skill set that can be applied to a wide range of roles in various sectors.

c. Identify program supports that assist graduates to successfully transition from university to employment.

Career Centre: The University of Alberta Career Centre is the source for career and employment information and expertise at the University of Alberta. The Centre strives to empower students, postdoctoral fellows, and alumni to develop the skills, knowledge, experiences, and connections they need to confidently manage their careers. Students can receive individual advising on career management and work search strategies, work search tools, graduate school applications, interview preparation for industry or academia, and their LinkedIn profile. Students who require prolonged career support to address complex issues can access career coaching services with the option of accessing online modules for added support. A suite of experiential learning programs including speaker series, career information interviews, career mentoring, job shadowing, internships and work experience programs, and undergraduate research put students in contact with professionals from their field of interest to explore career options at a deeper level. Students can also access funding to offset the costs of professional or leadership activities. The Career Centre offers an extensive online job board, several online resources, and two multi-disciplinary career fairs per year. Career support is also offered to alumni for life.

[Careers and Work Integrated Learning | Alberta School of Business](#), and [Career Connect](#)



International Student Services: University of Alberta International (UAI) provides immigration advice and advises degree-seeking international students, short term visiting students, and visiting interns on their eligibility to work in Canada while studying, while in a short term internship, and after graduation. UAI offers additional support such as an online orientation for international students with components focused on navigating working in Canada, information on applying for a social insurance number and filing income taxes, as well as webinars on intercultural competencies for living and working in Canada. UAI developed the International Student Work Experience Program that currently resides in the Career Centre.

In addition to the above:

- It is anticipated that a number of graduates will have basic technical skills for students hailing from STEM background, as well as students hailing from a business background will have basic knowledge about business management. Alternatively, some students may already be employed in entry-level positions and looking to advance their career paths. Alternatively, for those who are not already employed, the analytics program and the Alberta School of Business has very strong ties to industry and would continue to work with those contacts to develop opportunities for graduates.
- The proposed program includes a capstone project that will bring students in contact with industry partners to work on real life projects.
- Within the Alberta School of Business, there are multiple student groups dedicated to organizing networking events and hosting guest speaker sessions tailored for our graduate students. These student organizations also oversee an experiential learning portfolio, which involves the coordination of both internal and external case competitions. [Student Organizations | Alberta School of Business](#)
- Our Careers and Work Integrated Learning team is dedicated to establishing industry Memoranda of Understanding (MOUs) to facilitate the hiring of our students. They also oversee the Career Connect portal, where a multitude of job postings are regularly featured. [Career Connect](#)
- Our career coaches and work integrated learning team play a crucial role in assisting students. They help students identify their core strengths, provide guidance in resume building, aid in creating LinkedIn profiles, and conduct mock interviews to enhance interview preparedness. [Careers and Work Integrated Learning | Alberta School of Business](#)
- The eHub entrepreneurship center plays a vital role in providing education, support, and comprehensive mentorship to University of Alberta students, fostering their development as innovative and entrepreneurial thinkers. In collaboration with our partners, mentors, faculty, and fellow students, eHub is dedicated to assisting students in their journey to identify and

implement solutions to challenges within their communities, workplaces, and organizations.

[About eHUB](#)

- Finally, the creation of an MMA Advisory Committee serves a vital function by providing industry experts with the opportunity to take on mentorship roles. This, in turn, helps forge valuable connections, promotes networking, and enhances employment prospects for our students.

**Reviewer's Comment:**

**2. Societal Benefits and Pathways** (*Answer the following questions*)

- a. In cases where labor market demand is not the primary reason for this program, identify anticipated social and community benefits (in addition to employment outcomes) within local, national or international contexts.

A recent Wharton School of Business report<sup>40</sup> The panel discussed how analytics help in societal good. A few areas highlighted were :

1. Machine learning tools have been instrumental in enabling the Greek government to monitor the arrival of COVID patients.
2. The analysis of sex trafficking data has yielded valuable insights. Previously, efforts were primarily focused on wealthier urban areas where victims were frequently exploited. However, the new data indicates that redirecting preventive and remedial resources toward less affluent areas, where victims are often ensnared, proves to be a more effective strategy. This shift in emphasis acknowledges the underlying causes and vulnerabilities within these impoverished communities, thereby addressing sex trafficking at its source and providing more meaningful support to those in jeopardy.
3. Analytics can also serve a pivotal role in dispelling long-held misconceptions, as exemplified by a recent study. Contrary to prevailing beliefs, the study employing analytics uncovered that TV broadcasts have a significantly greater impact in disseminating biased reports compared to social media. This revelation challenges prior assumptions regarding the relative influence of different media sources in shaping public opinion.
4. The utilization of GPS tagging and camera traps represents a potent tool for gathering real-time data on the movements and behaviors of some of the planet's most critically endangered animals. This technology empowers conservation groups with crucial information needed to potentially safeguard these species from extinction. Data scientists can employ this data to track migration patterns, monitor fluctuations in population size, assess trends of growth or decline, and identify potential risks that pose threats to these endangered species. In doing so, they make a substantial contribution to the protection and preservation of these invaluable creatures.

<sup>40</sup> [Data Analytics Is Changing The World - Here's Why You Should Care | Ironhack Blog](#)

5. The United Nations has emphasized that the abundant availability of data and the advancement of analytical tools will play a significant role in making substantial progress towards achieving the UN Sustainable Development Goals.<sup>41</sup>

#### **Benefits to Women:**

- According to a report by the Boston Consulting Group, the current employment rate for women in the field of AI and analytics stands at a mere 15%.<sup>42</sup> To address this gender gap, the logical starting point is to introduce a specialized degree program in this domain. The introduction of this program will give an opportunity to women interested in having a career in analytics/AI/ML.

#### **Edmonton Community Benefits:**

1. Recently, the Bissell Centre used the help of data analytics to help lower poverty levels in the community. The center offers valuable insights and 20 different programs to make pivots in existing programs.<sup>43</sup>
2. Eugene Chen has created a 3D map using the 2016 Edmonton census data. This innovative map serves the purpose of assisting business owners in making informed decisions about potential locations for opening new branches within the city. By incorporating various demographic factors, the map provides valuable insights into the city's population distribution and characteristics, enabling business owners to identify strategic areas for expansion based on their target market and customer base.<sup>44</sup>
3. Amii and Canada Wildfire collaborated to leverage data by building a machine learning predictive model for identifying extreme fire risks. This initiative's goal is to provide firefighters with advanced insights, enabling them to allocate resources more effectively to areas that require immediate attention.<sup>45</sup>
4. The School of Business's Assistant Professor in the Department of Business Analytics, Dr. Ilbin Lee, conducted research utilizing data analytics to determine the optimal allocation of limited resources during the early stages of wildfire suppression. This study aimed to identify the most effective utilization of resources for combating wildfires in their initial phases.<sup>46</sup>

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<sup>41</sup> [Big Data for Sustainable Development | United Nations](#)

<sup>42</sup> [It's a Numbers Game – Why Businesses Need More Women in Data and Analytics - insideBIGDATA](#)

<sup>43</sup> [Edmonton-based Bissell Centre uses data and analytics to help eliminate poverty in the community | IT World Canada News](#)

<sup>44</sup> [Developer turns data into 'useful and magical things' - Taproot Edmonton](#)

<sup>45</sup> [Fighting fire with data: building a machine learning model to predict wildfire risk | Amii | News](#)

<sup>46</sup> [New research could help firefighters improve their plan of attack | Folio](#)

### **Benefits to the business community:**

A Master of Management Analytics has a large target market, particularly in finance, insurance, healthcare, manufacturing, technical services, and retail. Opportunities for business analytics have increased dramatically as major organizations have adopted data driven and technology-focused approaches:

- **Increasing Demand for Analytics Professionals:** In today's data-driven world, organizations across various sectors are relying on analytics to make informed decisions. There is a growing demand for skilled professionals who can effectively analyze complex data sets and derive valuable insights to drive business strategies, optimize operations, and solve critical problems.
- **Advancing Technological Landscape:** Rapid advancements in technology, including artificial intelligence, ML, and big data analytics, have created immense opportunities for organizations to leverage data for competitive advantage. A specialized graduate program in management analytics equips students with the necessary knowledge and skills to navigate and harness these emerging technologies effectively.
- **Decision-Making in Complex Business Environments:** Businesses face increasingly complex challenges, and the ability to make data-driven decisions is crucial for success. A graduate program in management analytics helps develop professionals who can tackle intricate problems, uncover patterns and trends in data, and provide evidence-based recommendations for strategic decision-making.
- **Addressing Talent Shortage:** The demand for digital skills in the workplace during the pandemic era has evolved well beyond fundamental digital literacy. Organizations now require employees who possess enhanced proficiency and a more profound comprehension of advanced digital domains, including data analysis.<sup>47</sup> One skill that analytics-enabled jobs require is hands-on experience with reporting and visualization software to aid in the collection and examination of data. Another skill is the ability to identify areas where data mining could yield useful insights and/or result in greater efficiency. A Master of Management Analytics can combine the technical and communication skills required in the current job market environment. By offering a dedicated graduate program in this field, a pool of highly skilled individuals who can contribute to the growth and competitiveness of organizations across industries, fostering economic development, can be nurtured.
- **Industry-University Collaboration:** A graduate program in management analytics can foster collaboration between academia and industry. This collaboration enables students to gain practical experience through internships, industry projects, and guest lectures by professionals. It also facilitates knowledge transfer, research partnerships, and the development of solutions to real-world challenges faced by organizations.

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<sup>47</sup> [Canada's critical 'skills gap' problem explained in 6 charts](#)

- **Enhancing Alberta's Competitiveness:** By offering a specialized graduate program in management analytics, Alberta can position itself as a hub for analytics expertise, attracting international talent, researchers, and organizations seeking to leverage the province's talent pool and capabilities.

### **INDIGENOUS COMMUNITIES**

It is essential to engage Indigenous community members in the data analytics process to ensure that their perspectives, needs, and preferences are considered, and that data is collected and used in a culturally-sensitive and respectful manner. Collaboration between Indigenous communities, government agencies, non-profit organizations, and academic institutions can help harness the power of data analytics to improve the well-being of Indigenous communities in Alberta and Canada.

- **Healthcare Planning:** Data analytics can be used to analyze healthcare data within Indigenous communities. By identifying health trends and needs, policymakers and healthcare providers can allocate resources more effectively, ensuring that the community's health needs are adequately addressed.
- **Cultural Preservation:** Data analytics can assist in preserving and promoting Indigenous languages, cultures, and traditions. This can be done by analyzing data related to cultural practices, languages spoken, and historical records.
- **Economic Development:** Data analytics can identify economic opportunities within Indigenous communities, such as identifying potential markets for traditional products, optimizing land use for agriculture, or supporting local entrepreneurship.

Overall, a graduate program in management analytics in Canada addresses the increasing demand for analytics professionals, supports decision-making in complex business environments, addresses talent shortages, promotes industry collaboration, helps communities, and enhances the country's global competitiveness. It plays a vital role in meeting the societal need for skilled professionals who can leverage data analytics to drive innovation, efficiency, and growth in organizations across Canada's economy.

### **Women in Artificial Intelligence:**

- This initiative also aims to support women in acquiring an education in the AI domain. There is a growing community of women showing interest in the field of artificial intelligence. Additionally, Women in AI, a global organization dedicated to women in this field, has a branch in Canada. This organization plays a crucial role in providing mentorship and facilitating networking opportunities for women to progress in the AI field.<sup>48</sup>

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<sup>48</sup> [Canada | Women in AI \(WAI\)](#)

- Data analytics can also be instrumental in measuring the gender gap in executive positions and facilitating efforts to bridge that gap through identification and analysis.<sup>49</sup>

- b. Comment on how the program creates opportunities for graduates in areas such as entrepreneurship, innovation, and/or social/community development.
- Alberta is establishing itself as a burgeoning hub for innovative startups, with a notable focus on analytics. These startups are harnessing the potential of data to facilitate informed decision-making and unearth valuable insights across a wide spectrum of industries. Therefore, a Master of Management Analytics degree will also empower students to become entrepreneurs. The table below showcases a roster of 15 startups in Alberta that center their operations on the utilization of analytics. This highlights the substantial potential for our graduates to actively participate in the entrepreneurial network by establishing businesses with a core emphasis on analytics.

| Startup            | Key Functional Area  |
|--------------------|--|
| Arbor              | Utilizing analytics for improving products sustainability.   |
| Ownly              | Specializes in big data, data analytics, customer experience, sales and real estate analytics.                             |
| imMail             | Company communications. Chat and video solutions for enterprises.  |
| HonestDoor         | HonestDoor employs predictive analytics and real estate data science to estimate property values.                          |
| Naiad Lab          | Using AI to connect healthcare providers with remote patients.   |
| E.O.I Technologies | Addresses predictive analytics and data collection needs in industries like food and beverage and machinery manufacturing. |
| Orennia            | Focused on the renewable power sector, the startup is contributing to a greener future through data-driven insights.       |

<sup>49</sup> [Boosting Diversity](#)

|                      |  |
|----------------------|--|
| Vellgus              | AI powered web and mobile solutions for businesses.  |
| Jamh                 | Brings artificial intelligence and machine learning to content research and communication services.  |
| Rolling Insights     | Envisions enhancing the fantasy sports experience through analytics.   |
| Moogle               | Specializes in machine learning-powered data analytics.  |
| Risk Alive Analytics | Risk Alive Analytics is at the forefront of risk management software, delivering solutions that enable businesses to navigate through uncertain circumstances. Through their analytics-powered risk management tools, this startup plays a pivotal role in facilitating well-informed decision-making and enhancing business resilience. |
| RA2                  | This startup excels in the realms of public opinion research, social network analysis, and applied moral psychology and behavioral science. The company utilizes analytics to gain insights into public sentiment, ultimately providing valuable information to decision-makers.   |
| Nerder               | The startup's focus on analytics-driven UX design sets the stage for intuitive and engaging user interactions.   |
| Provision Analytics  | Focuses on creating precise software solutions for food processors and manufacturers. The startup caters to the agriculture and food and beverage industries.  |

\* Source- [From Bytes to Brilliance: 15 Alberta Startups Revolutionizing Analytics – Canadian Venture](#)

These business ideas showcase the versatility of analytics skills, which can be applied to various industries and sectors. Success in these ventures often depends on a combination of technical expertise, domain knowledge, critical thinking and problem solving soft skills, and entrepreneurial acumen.



- c. Indicate whether the proposed program offers new or expanded pathway opportunities for students in the Alberta Adult Learning System. (Elaborate as needed).
- The Master of Management Analytics program presents a unique opportunity for students within the Alberta Adult Learning System to access a new pathway towards careers in the Artificial Intelligence/Machine Learning/Business Analytics sector. This distinct pathway is not currently available through other programs, including the Master of Business Administration (MBA), Master of Financial Management, and Master of Accounting programs offered by the Alberta School of Business. Notably, the Master of Management Analytics program will be the exclusive offering from a business faculty in Alberta. It's important to clarify that this program is not focused on teaching coding. Instead, its primary objective is to educate students in the specific skill of translating data to make informed decisions using AI/ML tools, which is a critical aspect of the field.

**Reviewer's Comment:**

## SECTION E: FINANCIAL VIABILITY AND SUSTAINABILITY

### 1. Budget and Funding Sources *(Answer the following questions)*

- a. Describe how the institution plans to finance the program, including any applicable sources of funds such as tuition, grants etc.:
- Finance for the program will be entirely funded through student tuition. The school will also explore opportunities to secure funding from the Campus Alberta Grant and SIV funding sources.
- b. Discuss risk mitigation plans should full revenue(s) not be achieved or should costs exceed amounts budgeted.
- The costs for this program are primarily variable and tied to student enrollment. .

**Reviewer's Comment:**

### 2. Financial Aid and Support for Students *(If funding support is provided to students, answer the following questions)*

- a. Indicate the percentage of students who are likely to receive funding (fully-funded, partially funded, or un-funded)?
- The Alberta School of Business strives to establish entrance awards for students who demonstrate exceptional academic achievements through their applications. 10% of the program revenue will be directed towards awarding entrance scholarships. Additionally, our Advancement team will actively seek funding opportunities for scholarships. In the interim, students may have the option to rely on student loans, where applicable.
- b. Estimate the typical level of funding provided to students admitted into the proposed program. (Indicate if there is a minimum).



|   |
|---|
| <ul style="list-style-type: none"> <li>10% of cohort revenue will be directed towards entrance awards to academically exceptional applicants.</li> </ul>  |
| <p>c. Identify external awards (e.g., SSHRC or NSERC fellowships) that students are eligible for and can reasonably expect to be awarded.</p> <ul style="list-style-type: none"> <li>The industry supports the introduction of this program and Advancement will be working toward establishing funds to provide partial scholarships to attract well qualified students.</li> </ul>  |
| <p><b>Reviewer's Comment:</b></p>   |
| <p><b>3. Tuition and Student Cost Considerations (Answer the following questions)</b></p>   |
| <p>a. Document tuition and fee projections for students (specify domestic student tuition fees, international student tuition fees, compulsory student fees, and other costs likely to be incurred by students (texts, equipment, equipment, travel for research or conference etc.). Provide rationale where appropriate such as comparisons with similar programs. (Consult with the Ministry as needed.):</p> <ul style="list-style-type: none"> <li>University of Alberta - Master of Management Analytics           <ul style="list-style-type: none"> <li>Proposed tuition is expected to be \$40,000 for the full program for domestic students and \$60,000 for international students. (NOTE: please refer to Appendix 4 for price comparisons with other programs).</li> </ul> </li> <li>Comparing to our current full-time MBA instructional fees for Canadian citizens and permanent residents are evaluated per 3- credit course and non instructional fees are detailed <a href="#">Here</a>. Total program fee @\$56,000 CAD.</li> <li>For international students in the MBA, instructional and non-instructional fees are assessed on a yearly basis. Total program fee @\$70,000 CAD.</li> <li>In addition to instructional and non-instructional fees, students are responsible for the cost of course materials and textbooks. Depending on specific course selection, these costs can vary, but students should budget at least \$2,000 for textbook and material fees over and above the program cost.<sup>50</sup></li> </ul> |
| <p>b. Does the proposed program align with the Tuition and Fees Regulation? <input checked="" type="checkbox"/> Yes; or <input type="checkbox"/> No</p>   |
| <p>c. Please elaborate on the above answer, if necessary.</p> <ul style="list-style-type: none"> <li>NA</li> </ul>  |
| <p><b>Reviewer's Comment:</b></p>   |

**SECTION F: INSTITUTIONAL IMPACT**

|  |
|--|
| <p><b>1. Institutional Mandate, Strategy Alignment, and Capacity (Answer the following questions)</b></p>  |
| <p>a. Briefly describe how the proposed program aligns with the institution's mandate and government priorities.</p> <ol style="list-style-type: none"> <li>On September 19,2023, the University of Alberta, unveiled its new 2023-2030 strategic plan: Shape: A Strategic Plan of Impact. This includes three pillars that will transform the University's future and make an impact globally. The three pillars include: educating with</li> </ol> |

<sup>50</sup> [Financial Investment | Alberta School of Business](#)

purpose, research with purpose, and engagement with purpose.<sup>51</sup> Our program aligns well with two of the three pillars:

2. **Educating with purpose:** Guided by the principle of purposeful education, the envisioned MMA program aligns seamlessly with this pillar. The University is dedicated to broadening the scope of its program offerings, particularly within the social sciences unit, where the Alberta School of Business plays a pivotal role. This expansion will be achieved by leveraging the technological expertise of our faculty specializing in business analytics, who will be instrumental in instructing these courses. Furthermore, the MMA program is in harmony with another crucial facet of this pillar, which involves maintaining a position of leadership in experiential and work-integrated learning throughout all its programs.
3. **Engagement with purpose:** In accordance with this guiding principle, the MMA program assumes a crucial role in fostering enhanced integration with the business community. This integration, in turn, leads to increased economic growth, expanded employment opportunities, wealth creation, and technological advancement.

#### **Alberta School of Business Strategy Alignment:**

- The MMA program aligns seamlessly with the institution's strategic plan and fundamental values, which are centered around cultivating and motivating entrepreneurial leaders from Alberta. This goal will be realized by infusing innovative thinking into our programs and formulating meaningful and effective teaching and learning objectives. Notably, the program strongly aligns with our core principle of "impactful teaching and learning," which emphasizes expanding educational opportunities for non-business students as well. This alignment is particularly fitting since the MMA program is both relevant and inclusive, welcoming individuals with backgrounds in STEM, other faculties of the College of Social Sciences and Humanities, such as arts, law and education, including the faculty of business.<sup>52</sup>
- The University of Alberta's MMA program is expected to contribute to the university's objective of raising student enrollment to 50,000 by 2026, up from the current 42,000. This effort is part of the Target Enrollment Expansion Program, which plays a pivotal role in the broader Alberta Work Initiative. The government of Alberta has also committed funding to bolster undergraduate and graduate programs across multiple faculties, including the Faculty of Business.<sup>53</sup>

b. To what extent does the program build on the institution's existing programs, infrastructure, resources, and experience from offering programs in related fields?

The program incorporates several key existing components to enhance the student experience:

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<sup>51</sup> [University Strategic Plan](#)

<sup>52</sup> [Alberta School of Business Strategic Plan](#)

<sup>53</sup> [From the President's Desk: Growing our student and faculty community | The Quad](#)

- **Bootcamp Session:**  
There will be a 15-day bootcamp session utilizing the in-house Business Technology Lab and the currently under renovation Analytics Lab on the second floor of the Business Building. This session aims to develop and refine programming language skills before the program officially commences in September.
- **Capstone Project:**  
The program features a 6-credit capstone project spread over two terms. Students will work on real-life business projects, offering practical solutions to industry partners. This collaboration will be in partnership with the CWIL (Careers and Work-Integrated Learning) office.
- **Experienced Faculty:**  
The Department of Accounting and Business Analytics boasts a team of renowned faculty members who are already proficient in teaching analytics courses at both undergraduate and graduate levels.
- **Extracurricular Activities:**  
Students will have the opportunity to engage in internal case competitions, benefit from guest speaker sessions, and participate in networking events.
- **MMA Advisory Committee:**  
The development team will be working towards establishing an MMA Advisory Board comprising industry experts in the field of analytics. This board will serve as mentors to students and provide valuable advice to the school on an ongoing basis. The advisory board will also include professors from the faculty of business to provide valuable academic insight, along with two student representatives.
- **Current Rankings:**  
The School of Business at the University of Alberta currently offers a robust portfolio of master's programs, including an MBA, Master of Accounting, and Master of Financial Management. These programs have earned significant recognition and rankings both in Canada and globally. The introduction of the MMA program is seen as a valuable addition that will facilitate growth and further enhance the global reach of the University of Alberta's School of Business.
- **AI center for Decision Analytics:**  
The recently established center in downtown Edmonton, headed by Professor Borzou Rostami, will provide MMA program students with access to cutting-edge tools and technology during their enrollment.

**Reviewer's Comment:**

**2. Internal Review and Approval**

- a. Indicate which internal governance body recommended approval and specify date of approval.
- Graduate Student Policy Committee (Alberta School of Business): Approved November 16, 2023
  - Alberta School of Business Council:
  - Graduate Program Support Team (GSPT): December 11, 2023
  - Faculty of Graduate and Postdoctoral Studies (GPS) Council: TBD
  - General Faculties Council (GFC) Programs Committee (PC): TBD

- To be confirmed: Registrar’s Advisory Committee on Fees (RACF): TBC To be confirmed: GFC Academic Planning Committee: TBC
- GFC: TBD
- Board Learning, Research and Student Experience Committee (BLRSEC): TBD
- Board of Governors: TBD

**Reviewer’s Comment:**

## SECTION G: SYSTEM IMPACT

### 1. Impact on Alberta Adult Learning System *(Answer the following questions)*

**a.** How does this program support provincial priorities for the Alberta post-secondary system? The MMA program aligns seamlessly with the Alberta government's vision for 2030<sup>54</sup>, which encompasses several key objectives as follows:

1. **Improve Access and Student Experience:** The Master of Management Analytics program presents a unique opportunity for students within the Alberta Adult Learning System to access a new pathway towards careers in the Artificial Intelligence/Machine Learning/Business Analytics field. Primarily for students' access, the Master of Management Analytics program will be an offering from a business faculty in Alberta. It's important to clarify that this program is not focused on teaching coding. Instead, its primary objective is to educate students in the specific skill of translating data to make informed decisions using AI/ML tools, which is a critical aspect of the field.
2. **Skill Development for Employment:** The program plays a pivotal role in addressing the increasing demand for both hard and soft skills in data-driven business decision-making across diverse industries. It fosters robust relationships among employers, industries, and post-secondary institutions in Canada, thereby enhancing the education system's capacity to reskill and upskill the workforce effectively.
3. **Strengthening Internationalization:** By attracting international students to our academic programs and equipping them with globally recognized skills, the Master of Management Analytics program significantly contributes to the goal of strengthening internationalization. This not only benefits individual students but also enhances Alberta's reputation on the global stage as a globally recognized institution. The university has established a strategic plan that places a strong emphasis on internationalization.<sup>55</sup>
4. **Fostering Innovation:** ML and AI tools are pivotal drivers of innovation. The program's capacity to attract talented students and faculty members positions Alberta to effectively compete in vital and high-demand sectors, as the Alberta School of Business’s vision is to offer

<sup>54</sup> [Alberta 2030: Building Skills for Jobs Strategy](#)

<sup>55</sup> [University of Alberta International Strategy Implementation Plan](#)

innovative and impactful programs. This aligns with the Alberta School of Business's vision of offering innovative programs. Additionally, the school emphasizes innovation and entrepreneurship in its teaching, research, and problem-solving practices<sup>56</sup>, in line with the province's goals to enhance innovation. Graduates from the program are expected to contribute significantly to Alberta's technology and AI sector, reflecting the school's commitment to fostering entrepreneurship and equipping students to become future leaders in the economy.

5. **Improving Sustainability and Affordability:** Importantly, the Master of Management Analytics program will enable the School of Business to generate its own source of revenue.

In essence, the Master of Management Analytics program serves as a cornerstone in realizing the Alberta 2030 vision, effectively addressing workforce skills, global recognition, and innovation needs within a rapidly evolving landscape driven by data-driven decision-making.

- b. Describe what distinguishes the proposed program from similar or related programs in the Alberta Adult Learning system.
  - Currently, the nearest alternative option is the MSc in Data Science and Analytics program offered by the Faculty of Science at the University of Calgary. This program offers a broad curriculum covering various aspects of data science, including health data science, biostatistics, business analytics, and financial and energy markets data modeling. Here are the main distinctions:
    - Unlike the more general approach of the UC program at Faculty of Science, the proposed MMA program is exclusively housed within the Alberta School of Business and features a distinctive structure with a clear emphasis on decision-making processes in business. Even the fundamental core courses in the MMA are designed with a business-centric perspective, emphasizing the practical application of data science techniques in real business scenarios. Therefore, it is more streamlined towards business applications, ensuring a deep understanding of how analytics can drive business strategies.
    - While the UC program may cover business analytics, the proposed MMA program at UA stands out by integrating case studies and practical applications throughout the curriculum. This ensures that students not only understand theoretical concepts but also see their real-world applications in business contexts. This approach enhances the relevance of the program for future business leaders.
    - The MMA program explicitly emphasizes the role of analytics in decision-making. This focus aligns with the growing demand for professionals who can not only analyze data but also translate insights into strategic decisions that drive business success. This emphasis on decision-making sets the MMA program apart in terms of its practical business applications.
    - The MMA program is designed to closely align with industry needs, particularly in the business sector. By focusing on business applications from the foundational courses,

<sup>56</sup> [School Strategic Plan \(2019-2023\) | Alberta School of Business](#)

the program ensures that graduates are well-equipped to address the specific challenges faced by businesses in today's data-driven environment.

Overall, the proposed MMA program fills a specific niche in the market by addressing the increasing demand for professionals with expertise in applying analytics and AI to business decision-making. Emphasizing the practical and business-centric approach, The MMA is tailored to produce graduates with a unique skill set suited for leadership roles in the business analytics domain. Moreover, the MMA program takes advantage of the following essential features:

- Prior to commencing the program, there is a 15-day bootcamp crafted to impart proficiency in analytical tools. Furthermore, it incorporates a 2-term capstone project, fostering collaboration with industry partners to address real-world decision-making challenges using data. It is noteworthy that the proposed MMA program also offers an optional internship component.
- A notable feature of this program is the MMA Advisory Committee, comprising prominent business professionals and academic experts from the Alberta School of Business and the support offered by Alberta Machine Intelligence Institute.
- Additional features include the newly-designed analytics lab and AI center for decision analytics as approved centers of ASB that will facilitate hands-on learning experiences.
- Additionally, the MMA program at ASB offers an optional internship stream.
- Particularly notable is the program's pioneering status in the Prairie region, being a program solely within a business faculty to offer this specialized curriculum. The program's objective is to enhance students' existing skills, and be able to apply those skills in making better business decisions. This is further supported by our comparator program analysis (Appendix 5) from other business schools in the country. Whether for entry into the workforce or to leverage their degree for advancement in their current careers.

c. If proposed program/specialization potentially constitutes program duplication, explain why such duplication is appropriate and beneficial in this circumstance.

- Not applicable

d. Summarize the outcomes of consultations with other institutions offering related programs. (Attach copies of relevant documents – e.g. letters, meeting summaries, etc.).

- Preliminary consultation in the proposal development stage done with Associate Professor Mike Palvin and the academic director of the Master of Management Analytics program at Wilfrid Laurier University. See Appendix 4C for a meeting summary.

**Reviewer's Comment:**

## SECTION H: OTHER CONSIDERATIONS

### Other considerations

a. Are there other factors or considerations the Ministry should take into account when reviewing this proposal?

- Not applicable

**Reviewer's Comment:**

**REVIEW COMPLETE: RECOMMENDATION (FOR DEPARTMENT USE)**

**Recommendation(s):**

**Rationale for Recommendation:**

**Reviewer(s):**

**Date Completed:**





Proposal Template: New Degree Programs and Specializations  
(Part B: Campus Alberta Quality Council Review)

If a proposed program receives a positive outcome from the System Coordination Review, the Minister may refer the program to the Campus Alberta Quality Council for quality assessment, the second stage of review.

The onus is on the applicant institution to satisfy CAQC that the level of learning to be achieved is consistent with that which is expected at the proposed degree level, that the program has sufficient breadth and rigor to meet national and international standards as outlined in, for example, the Canadian Degree Qualifications Framework (CDQF) and the Alberta Credential Framework (ACF), and that the program is comparable in quality to similar programs (if any) offered in Alberta and elsewhere. The program proposal should demonstrate how CAQC's program quality standards and any applicable guidelines have been addressed and describe any unique dimensions that set the program apart from similar programs thus providing new educational opportunities for students.

NOTE: Part A of the program proposal may undergo changes as a result of the System Coordination Review. It is important that Part A be up-to-date and complete before it is forwarded to CAQC. Building on the information provided in Part A, the program proposal that is sent to CAQC should contain the additional information requested below. When possible, links to existing policy documents and institutional policies should be provided, rather than recopying them in response to questions.

## SECTION A: PROGRAM SPECIFICS

### 1. Program Learning Outcomes (PLO)

- a. Provide the program's learning outcomes (as presented in Part A of the proposal).

The Master of Management Analytics (MMA) program is designed to equip students with a comprehensive skill set and deep understanding of the field. Program learning outcomes are as follows:

- **Data Analytics Proficiency:** Graduates will possess a strong foundation in data analytics concepts, methodologies, and techniques, enabling them to effectively collect, analyze, and interpret data to drive informed decision-making across various business domains.
- **Business Integration:** Students will learn how data analytics can be seamlessly integrated into different functional business areas, enhancing their ability to apply analytics solutions to real-world problems in areas such as finance, marketing, operations, and more.
- **Research and Quantitative Skills:** Graduates will be adept at conducting rigorous quantitative research, allowing them to explore complex business challenges, frame

relevant questions, and leverage data-driven insights to optimize processes and strategies.

- **Project Management and Execution:** Graduates will demonstrate the skills to identify, manage, and successfully execute business analytics projects. Graduates will be proficient project managers, capable of overseeing end-to-end project lifecycles.
- **Effective Communication:** Recognizing the vital role of communication and collaboration in analytics projects, students will develop strong communication skills. They will be able to convey data-driven insights visually, in writing, and through verbal presentations, ensuring effective knowledge sharing within organizations.
- **Ethical and Lifelong Learning:** Graduates will demonstrate ethical awareness by identifying potential risks and limitations in analytics projects, promoting responsible data usage. They will also recognize the dynamic nature of the field, emphasizing the importance of continuous learning and staying updated with evolving analytics trends

These program learning outcomes underscore our commitment to fostering well-rounded analytics professionals who possess not only technical prowess but also the ability to translate data insights into strategic advantages for businesses while upholding ethical standards and adaptability in an ever-evolving landscape.

## 2. Program Structure

- a. Provide a comprehensive outline of the entire program curriculum, listing the course names, course numbers, and credits for all required courses and specified electives. Indicate which courses are new for this program. Where applicable, specify the requirements for any minors, work-integrated learning (WIL), specific general education or breadth elements, or other elements that are part of the program.
  - In cases where the proposed program ladders on top of an existing diploma or certificate, a similar outline must be provided for that credential.
  - In an appendix, list the calendar entries for all required courses and specified electives, including the calendar designation for credits and numbers of lecture, lab seminar, tutorial hours, etc. For new courses under development, provide a tentative calendar entry.-- Refer to Appendix 8.

The program will focus on training managers to design, lead and execute data driven projects across industries. The main objective of the MMA program is to equip students with comprehensive knowledge and practical skills to effectively apply state-of-the-art analytics tools. By doing so, students will be able to leverage available resources, gain valuable business insights, and make informed operational and strategic decisions. Throughout the program, students will successfully demonstrate their ability to design and move data analytics projects from conception to application. Students will solve a real-world business problem with their student team and learn from expert faculty from a range of backgrounds

about how analytics can improve business performance. A key focus of the program is to enable students to identify and evaluate opportunities and risks associated with data analytics projects. By developing a deep understanding of the potential benefits and challenges, students will be equipped to make informed decisions and contribute to the success of data analytics initiatives.

To achieve these learning objectives, the program emphasizes the project development life cycle. Through engaging case studies, course projects, and a field project, students will have the opportunity to apply their knowledge and skills in practical settings. This hands-on approach will enable them to navigate the various stages of project development, gaining valuable experience and proficiency in executing data analytics projects effectively. By the end of the program, students will have not only acquired theoretical knowledge but also demonstrated their ability to apply it in real-world scenarios. They will possess the necessary skills to design and execute data analytics projects and contribute to improved decision making processes within organizations.

Kicking off in August, the program's first month offers a comprehensive introduction to both coding and business fundamentals. Students will participate in an immersive, 2-week coding bootcamp, designed to equip them with a solid foundation in programming logic and essential concepts. This coding bootcamp serves as a vital launchpad for the entire program, ensuring that all participants are well-prepared for the more advanced segments of the curriculum. By gaining a strong grasp of coding principles, students will have the necessary skills to tackle complex analytical challenges throughout the duration of the Master of Management Analytics program.

| Length   | August                                | Fall     | Winter   | Spring          | Summer          | Fall       |
|----------|---------------------------------------|----------|----------|-----------------|-----------------|------------|
| Option 1 | Coding Bootcamp and Intro To Business | Pillar 1 | Pillar 2 | Pillars 3 and 4 | Pillars 3 and 4 | -          |
| Option 2 | Coding Bootcamp and Intro To Business | Pillar 1 | Pillar 2 | Pillars 3 and 4 | Pillars 3 and 4 | Internship |

**Table 1:** The MMA offers two options: (1) one year, and (2) 16-month option that includes an internship for students interested in gaining additional professional experience prior to graduation.

In addition to the coding bootcamp, the first month also includes an in-depth introduction to the core principles of business. This aims to provide students with a well-rounded understanding of the business landscape, enhancing their ability to analyze data in a broader organizational context.

Following the bootcamp, students will then enter the Fall term, where they'll delve into the core curriculum of the MMA program. The MMA is structured around four major pillars, providing comprehensive knowledge and training in various aspects of analytics.

- **Business analytics fundamentals:**

This pillar covers the essentials of data interpretation, visualization, and statistical analysis. This pillar also reinforces the coding and data manipulation skills introduced in the bootcamp, enabling students to engage more effectively with analytics tools and models.

- **Business analytics process and management:**

This pillar emphasizes the complete lifecycle of analytics projects, from data collection and mindful consideration of ethical issues to data-informed decision making and insight generation. It aims to impart best practices in orchestrating these multifaceted processes efficiently and effectively.

- **Analytics applications across functional areas:**

This pillar delves into the multifaceted applications of analytics across various operational domains. It equips students with the ability to apply analytical concepts and tools contextually to solve problems and drive efficiency in diverse business functions such as finance, marketing, operations and supply chain, and human resources. Through this, students gain a comprehensive understanding of how data-driven insights can propel strategic decision making in any functional area of an organization.

- **Experiential learning:**

This pillar is designed to provide students with real-world experience in one of Canada's thriving tech and digital economies through two 8-week internships. Incorporating a capstone management analytics project, community engagement or an internship, the experiential pillar facilitates practical application of theoretical concepts in real-world contexts. Additionally, this segment serves as a dynamic platform for students, offering them an invaluable opportunity to network and interact with seasoned professionals from leading analytics organizations, enriching their overall learning experience.

While students will be exposed to each pillar in all terms, the emphasis will change in the subsequent terms. In the fall term, students take business analytics fundamentals courses: Machine learning for business I (structured data); Database fundamentals for Business Analysts; Data Visualization and Business Communications; and Statistics Analytics and Causal Inference. Courses in the winter term emphasize analytics process and management: Machine Learning for Business II (unstructured data), Business Applications of Artificial Intelligence, Prescriptive Analytics, and Responsible AI and ethical issues in data analytics. In the spring and summer terms, students take functional area elective courses: Accounting analytics, Operations and supply chain analytics, Financial Analytics, Marketing Analytics, and Healthcare analytics. An experiential education field project performed in groups of 3-4 will be completed over the spring and summer semesters.

**Required courses:**

MMA 600 - Bootcamp coding (Python, R)

MMA 601 - Business Foundations and Strategic Decision Making (One week intensive course)

MMA 602 - Data Visualization and Business Communications (Tableau, Power BI)

MMA 603 - Machine Learning for Business I (Python)

MMA 604 - Database Fundamentals for Business Analysts (SQL)

MMA 605 - Statistics Analytics and Causal Inference (R)

MMA 606 - Machine learning for Business II (Python)

MMA 607 - Prescriptive Analytics (Python)

MMA 608 - Business Applications of Artificial Intelligence

MMA 609 - Responsible AI & Ethical Issues in Data Analytics (addresses Indigenous elements)

MMA 610 - Analytics Capstone Project

**Elective courses:**

MMA 611 - Accounting Analytics

MMA 612 - Financial Analytics

MMA 613 - Operations and Supply Chain Analytics

MMA 614 - Marketing Analytics

MMA 615 - Healthcare Analytics

MMA 616 - Strategy Analytics

The program follows a one-year master's structure, offering coursework in each term. The courses are strategically arranged to complement and build upon one another, facilitating the achievement of the program's objectives. This structured approach ensures that students have well-defined progression requirements to meet and aligns with the expectations associated with earning a degree.

**Table 2: GRADUATE PROGRAM STRUCTURE - One year**

| August  | Fall Term | Winter Term | Spring Term                | Summer Term                |
|---------|-----------|-------------|----------------------------|----------------------------|
|         |           |             | (select 1 elective course) | (select 1 elective course) |
| MMA 600 | MMA 602   | MMA 606     | MMA 610                    | MMA 610                    |
| MMA 601 | MMA 603   | MMA 607     | MMA 611 (elective)         | MMA 611 (elective)         |
|         | MMA 604   | MMA 608     | MMA 612 (elective)         | MMA 612 (elective)         |
|         | MMA 605   | MMA 609     | MMA 613 (elective)         | MMA 613 (elective)         |
|         |           |             | MMA 614 (elective)         | MMA 614 (elective)         |

|  |  |  |                    |                    |
|--|--|--|--------------------|--------------------|
|  |  |  | MMA 615 (elective) | MMA 615 (elective) |
|  |  |  | MMA 616 (elective) | MMA 616 (elective) |

**Table 3: GRADUATE PROGRAM STRUCTURE - 16 Months**

| August  | Fall Term | Winter Term | Spring Term<br>(select 1 elective course) | Summer Term<br>(select 1 elective course) | Fall - Year 2 |
|---------|-----------|-------------|---|---|---------------|
| MMA 600 | MMA 602   | MMA 606     | MMA 610                                   | MMA 610                                   | Internship    |
| MMA 601 | MMA 603   | MMA 607     | MMA 611 (elective)                        | MMA 611 (elective)                        |               |
|         | MMA 604   | MMA 608     | MMA 612 (elective)                        | MMA 612 (elective)                        |               |
|         | MMA 605   | MMA 609     | MMA 613 (elective)                        | MMA 613 (elective)                        |               |
|         |           |             | MMA 614 (elective)                        | MMA 614 (elective)                        |               |
|         |           |             | MMA 615 (elective)                        | MMA 615 (elective)                        |               |
|         |           |             | MMA 616 (elective)                        | MMA 616 (elective)                        |               |

- b. If the curriculum includes a WIL component(s), provide the following information:
- i. how placements will be arranged, and what resources and/or personnel the institution will make available to undertake these processes.

An initial cohort of 25-30 students is anticipated in the first year of the new Master of Management Analytics. The program would include both internship and non internship streams. Up to 20 students are anticipated in the internship stream. While students would be expected to secure their own internships, work integrated learning staff would assist students and help them to find an internship that suits their professional goals and personal circumstances. Opportunities are sourced through our career center and posted on careerconnect portal for students to access and apply.

Initial conversations with prospective employer partners, including AMii and AltaML, indicated an interest and willingness to hire this student population for internship work terms. Other potential partnerships include public sector organizations, such as the City of Edmonton and Government of Alberta. Partnership agreements with employers would be sought to secure a reliable pool of internship opportunities for students.

Feedback from the Alberta School of Business Careers and Work Integrated Learning (CWIL) unit indicates that internships are incredibly valuable to international students. This proposed 16-month program with no scheduled breaks provides international students with eligibility for a three-year post-graduate work permit.

If students are selected for the internship stream, they are responsible for finding their own work term and are subject to employer interview processes. However, there are a large number of supports in place to set students up for success in securing the internship and throughout its duration.

For example, CWIL provides students with support developing their resumes and interview skills, while continually building relationships with employers to understand trends and what employers are looking for. CWIL staff will work to connect employers and students to try to find the right internship opportunity, while paying careful attention to the individual circumstances and experiences. Working with students in order to learn about their skills and strengths will also help ensure all students have equitable access to opportunities.

Additionally, CWIL offers a range of career exploration, experiential learning and employer networking events and programming to help students connect with prospective internship employers.

The MMA advisory committee will also actively engage in conducting networking sessions with industry professionals and securing capstone projects.



ii. expectations and obligations of student and host and how these will be coordinated.  
Expectations of students:

Students must actively participate in the internship recruitment process on their own as well as in collaboration with the WIL team. Students are expected to conduct themselves professionally regarding all aspects of their job search and employment term.

Employer responsibilities:

- Hiring a student for an internship is just like hiring any other temporary employee and employers must follow all labor laws and regulations.
- The employer must facilitate a mid-point review with students and act as mentors.
- The employer can also request for feedback from the students to ensure that both parties have an invaluable experience.

iii. how mentoring and supervision of students during their WIL experience will take place.

Career coaches can provide valuable guidance and support in several ways:

The mentoring and supervision of students during their Work Integrated Learning (WIL) experience will be carefully structured and overseen to ensure their development and success. Here's how it will take place:

- **Regular Meetings:**  
Students and their coaches and supervisors will have regular meetings, which may occur on a regular basis, to discuss progress, challenges, and goals. These meetings may be conducted in person or virtually, depending on the circumstances.
- **Project Supervisors:**  
Faculty teaching the capstone project will act as supervisors for regular checkup on the progress. These supervisors will provide guidance and feedback on the practical aspects of the work before the final project is presented to the project sponsors.
- **Structured Learning Objectives:**  
Clear learning objectives will be established at the beginning of the WIL experience. These objectives will serve as a roadmap for both the student and their mentors, ensuring that the learning experience is purposeful and aligned with educational goals.
- **Feedback and Evaluation:**  
Continuous feedback will be provided to students throughout their WIL experience. This feedback will help them understand their strengths and areas for improvement, fostering their professional development.
- **Reflection Assignments:**  
Students may be encouraged to engage in reflective exercises to document their experiences, insights, and lessons learned during their WIL.



- **Support Resources:**

Students will have access to resources and support services within the institution, such as career counseling, to help them navigate any challenges they encounter during their WIL placement.

- **Monitoring and Assessment:**

The institution may periodically assess the progress of students during their WIL to ensure that they are meeting their educational goals and receiving the necessary support.

By implementing these mentoring and supervision practices, the institution can ensure that students derive maximum educational value from their Work Integrated Learning experiences and are well-prepared for their future careers. Moreover, networking opportunities, guest speaker sessions, and case competitions will be organized collaboratively by industry professionals serving on the advisory committee members and the academic director, the CWIL office, and various student groups. The School of Business frequently hosts alumni mixers as well, facilitating connections between students and successful alumni who have achieved excellence in this field. This interaction with accomplished alumni will prove to be a valuable resource for students.

iv. how evaluation of student performance will occur.

It's essential to communicate the evaluation process and criteria clearly to both students and their workplace mentors to ensure a transparent and productive WIL experience. Additionally, regular communication and feedback throughout the placement are crucial for students' development and success. Students will be required to conduct mid point meetings with their mentors (for internship) and supervisors (for capstone project) and career coaches where feedback will be provided and guidance for the path ahead.

- **Establish Clear Learning Objectives:**

Supervisors will define specific learning objectives that students should achieve during their WIL placement. These objectives will align with the educational goals of the program and the skills required for the industry.

- **Project Deliverables:**

Assessing students based on the quality, completeness, and timeliness of project deliverables they are responsible for during their WIL. This will help evaluate how well they apply theoretical knowledge to practical tasks.

- **Presentations or Demonstrations:**

Students may also be asked to present their work, share their experiences, or demonstrate specific skills they've acquired during their WIL. This will assess their ability to communicate effectively and showcase their learning.

- **Peer and Colleague Feedback:**

Feedback from colleagues or team members who have interacted will be included in capstone projects as well as case competitions and in class group projects. This can provide additional perspectives on their performance.

- **Developing Evaluation Criteria:**  
Each project will be different, hence a general as well as specific evaluation criteria will be developed over the course of the WIL experience.
  - **Assessment Rubrics:**  
For capstone projects, clear and well-defined assessment rubrics to ensure consistency and fairness in evaluating students.
- v. how opportunities will be afforded to students to reflect on how the WIL experience contributed to their degree program.
- During the midpoint evaluation meeting between students and their supervisors, students will have the chance to reflect on how their Work Integrated Learning (WIL) experience contributes to their degree program. They will be presented with questions related to their experiences and engage in classroom discussions. This could take the form of a self-reflection assignment as well.
- vi. If not already included above, indicate the resources and/or personnel that the institution will make available to undertake these processes as well as any other relevant features of the WIL component.
- c. Provide a summary outline of the program structure and requirements in a table that indicates the number of junior and senior courses, and credit totals, for the components listed in the sample table below. Additional components, such as minors or general education may be added as appropriate.
- There is no major or minor course requirement within the proposed MMA program. Instead the program includes a set of 11 core courses and 2 electives with a requirement of a capstone project to graduate.

**Table 4: Program structure**

| Component <sup>1</sup> | Core courses | Credits     | Elective Courses<br>(2 electives only)) | Credits      |
|------------------------|--------------|-------------|---|--------------|
| Major requirements     | 9 courses    | 3 credits*9 | 2 courses                               | 3 credits *2 |
|                        | Total        | 27 credits  | Total                                   | 6 credits    |

|  |            |            |           |          |
|--|------------|------------|-----------|----------|
| Additional requirements (Capstone Project) | 1 course   | 6 credits  | XX        | XX       |
| Introductory Boot camp                     | 1 course   | 0 credits  | XX        | XX       |
| Total                                      | 11 courses | 33         | 2 courses | 6 credit |
| Total                                      |            | 39 credits |           |          |

<sup>1</sup> The names of the components in this column are only applicable to some programs at some institutions, and should be modified accordingly for the proposed program.

- d. For undergraduate degrees, demonstrate (in a table, if possible) how the program meets the structural requirements for the relevant degree type as set out in CAQC's Expectations for Design and Structure of Undergraduate Degrees (Handbook s. 4.3.3.).

Not Applicable

### 3. PLO Mapping

- a. Provide a mapping of the courses to the PLOs. Although proponents may choose alternative ways to present a curriculum map, the following example represents one way required and elective courses in a specialization can be mapped to PLOs to demonstrate
- how the courses that fulfill the requirements for the specialization (major) contribute to the achievement of the learning outcomes, and
  - a progression in the development of the PLOs across these courses.

Although all courses in a program contribute to PLOs, the focus in this map is on the courses that constitute the specialization.

**Table 5: Curriculum mapping of the PLOs to courses constituting the specialization in the proposed program**

| Course number and abbreviated name   | Program learning outcomes           |                               |   |   |                                  |  |
|--|-------------------------------------|-------------------------------|---|---|----------------------------------|--|
|  | PLO 1<br>Data Analytics Proficiency | PLO 2<br>Business Integration | PLO 3<br>Research and Quantitative Skills | PLO 4<br>Project Management and Execution | PLO 5<br>Effective Communication | PLO 6<br>Ethical and Lifelong Learning |
| Required core courses in the specialization                                |                                     |                               |   |   |                                  |  |
| MMA 601, Business Foundations and Strategic Decision Making                | I                                   | I,D                           | I   | I   |                                  | I,D                                    |
| MMA 602 Machine Learning for Business I (Python)                           | I,D                                 | I, D                          | I, D                                      | I   | I,D                              | D                                      |
| MMA 603 Data Visualization and Business Communications (Tableau, Power BI) | I,D                                 | D                             |   | I,D                                       | D                                | D                                      |
| MMA 604 Database Fundamentals for Business Analysts (SQL)                  | I,D                                 | D                             | D   | D   | D                                | D, M                                   |

|   |      |     |     |   |   |   |
|---|------|-----|-----|---|---|---|
| MMA 605 Statistics Analytics and Causal Inference (R)   | D,M  | M   | D,M | M | M | M |
| MMA 606 Machine learning for Business II (Python)   | D,M  | M   | D,M | M | M | M |
| MMA 607- Prescriptive Analytics (Python)  | D, M | M   | M   | M | M | M |
| MMA 608-Business Applications of Artificial Intelligence  | I,D  | M   | M   | M | M | M |
| MMA 609 Responsible AI & Ethical Issues in Data Analytics (addresses Indigenous data handling ethics) | D    |     |     |   | M | M |
| MMA 610 Capstone Project  | M    | M   | M   | M | M | M |
| Elective courses in the specialization <sup>1</sup>   |      |     |     |   |   |   |
| MMA 611 Accounting Analytics  | D,M  | D,M | M   | M | M | M |
| MMA 612 Financial Analytics   | D,M  | D,M | M   | M | M | M |
| MMA 613 Operations and supply chain Analytics   | M    | M   | M   | M | M | M |
| MMA 614 Marketing Analytics   | D,M  | D,M | M   | M | M | M |
| MMA 615 Healthcare Analytics  | D,M  | D,M | M   | M | M | M |
| MMA 616 Strategy Analytics  | D,M  | D,M |     | M | M | M |

#### Legend

- I: Indicates that knowledge and skills to help learners achieve this PLO are introduced in this course
- D: Indicates that knowledge and skills to help learners achieve this PLO are further developed in this course

<sup>1</sup> Elective courses in the specialization are courses presented in a list from which students must choose a specific number.



M: Indicates that knowledge and skills to help learners achieve this PLO are mastered (appropriate to the degree level) in this course

#### 4. Alignment with Alberta Credential Framework (ACF)

Graduates are also expected to demonstrate the degree-level expectations in each of the six knowledge and skill areas set out in the ACF (see the CAQC Handbook), describe how the proposed program meets the expectations in each of the areas listed below, and how the academic culture helps learners achieve these expectations.

**a. Depth and breadth of knowledge:**

The MMA program will provide students with an extensive grasp of various aspects within the area of data analytics, machine learning, and artificial intelligence tools and techniques, while also emphasizing the application of these skills in data interpretation for informed decision-making. This approach ensures that students acquire a holistic understanding of the field and the capability to apply their knowledge in resolving intricate challenges. This comprehensive education is imparted through boot camp sessions, class-based case studies and discussions, presentations, capstone projects, and, for those students opting for internships, hands-on experience working with industry partners. The program is strategically designed to maintain a harmonious balance between theoretical and practical depth and breadth.

**b. Conceptual awareness and/or knowledge of research: (i.e., knowledge of approaches to inquiry and/or creative work)**

The MMA program features practical projects where students must put their knowledge into action by utilizing programming tools and analyzing data to foster organizational development. This approach is designed to foster the development of students' technical proficiency and problem-solving capabilities, effectively preparing them for situations that demand a combination of technical skills and business acumen to resolve intricate challenges.

**c. Communication skills:**

The MMA program incorporates a curriculum that encompasses coursework, case studies, and team-based projects and capstone experiences, all of which demand students to engage in presenting their work, collaborating with diverse groups, and effectively communicating with various audiences, including peers, clients, and instructors. This multifaceted approach is aimed at enhancing students' communication abilities and equipping them for real-world scenarios.

**d. Application of knowledge:**

The MMA program incorporates practical projects that necessitate students to employ their knowledge in making business decisions. This approach aims to foster the development of students' technical expertise and problem-solving capabilities, effectively equipping them for real-world employment in the business sector.

**e. Professional capacity and autonomy:**

The MMA program encompasses coursework and projects that demand self-reliance, fostering a sense of accountability for one's own learning, and the cultivation of

professional competencies. This approach is geared toward enhancing students' professional development and preparing them for self-directed roles in a professional environment. Our commitment extends to integrating Indigenization strategies and diverse case studies throughout the curriculum, which will equip graduates with a more inclusive worldview and a broader spectrum of perspectives. This, in turn, will shape their understanding of personal responsibility and accountability, both at the individual and group levels.

**f. Awareness of limits of knowledge:**

The Master of Management Analytics program offers courses that serve as an introduction to the fields of Analytics, Machine Learning (ML), and Artificial Intelligence (AI). These courses also provide students with opportunities to explore the limitations and uncertainties inherent in various data methodologies. This exploration enables students to develop an awareness of the boundaries of their expertise, preparing them for a journey of continuous learning and ongoing professional development.

The program kicks off with an introductory boot camp, focusing on the practical application of tools and techniques. Following this, there is an introduction to business concepts for students without a business background, which includes a component on indigenous business practices. Moreover, the MMA 609 course, "Responsible AI and Ethics," specifically addresses ethical considerations in data and AI usage, including the ethical use of indigenous community data. The overarching goal is not only to educate students for the sake of earning a degree but to nurture responsible business leaders.

## 5. Requirements and Pathways for Admission and Academic Progression

a. Provide the following information:

i. Admission criteria (including any provision for prior learning assessment)

- Prospective students should possess an undergraduate degree in a relevant field such as business, STEM, computer science, displaying a degree of quantitative understanding. Applicants will be expected to have maintained a minimum GPA of 3.0 on a 4.0 scale during their final two years of undergraduate study.
- At the time of application, individuals must demonstrate a solid understanding of calculus, and statistics, having earned a grade of at least B+ in each of these courses.
- Applications should be accompanied by official transcripts and recommendations from at least two referees.
- Interviews will be conducted for the admission process to assess the analytical and critical thinking skills of prospective students.
- Work experience is recommended but not required.
- International students must obtain a study visa to enroll at the institution.
- For international applicants, a minimum IELTS score of 7 in each band and a TOEFL score of at least 100 are necessary



ii. Residency Requirements:

- The Master of Management Analytics program is exclusively offered as a full-time, on-campus program. This means that students must physically attend classes on campus and participate in program-related activities, class lectures, exams and presentations for all four semesters of the program. There is no online alternative available.

iii. Academic Performance Progression Requirements:

In this one-year, four-semester master's program, a student's academic performance is evaluated after they complete their studies in both the Fall/Winter and Spring/Summer semesters, which are integral to their degree program. This assessment is conducted by examining their GPA for each of the Fall/Winter and Spring/Summer terms.

iv. Graduation Requirements applicable to the Program:

- Successful completion of 39 credits is necessary for eligibility for graduation.
- A mandatory capstone project consisting of 6 credits is required.
- To graduate, students must attain a cumulative GPA of 2.7 or higher.

**Table 6: University of Alberta's Graduate Programs Grading Scale/System**

| Descriptor   | Letter Grade | Grade point value |
|--------------|--------------|-------------------|
| Excellent    | A+           | 4.0               |
|              | A            | 4.0               |
|              | A-           | 3.7               |
| Good         | B+           | 3.3               |
|              | B            | 3.0               |
| Satisfactory | B-           | 2.7               |
|              | C+           | 2.3               |
| Failure      | C            | 2.0               |
|              | C-           | 1.7               |
|              | D+           | 1.3               |
|              | D            | 1.0               |
|              | F            | 0.0               |

- b. Note any program specific regulations (e.g., for doctoral programs, note any candidacy or dissertation requirements, examination requirements, time to completion requirements, etc.).
- As part of the University of Alberta community, graduate students are expected to maintain the highest standards of ethical conduct in their education, research, workplace interactions, and professional engagements. To ensure that students are aware of their rights, responsibilities, and commitments, all graduate students are now required to fulfill an ethics requirement. Starting from the Fall of 2022, the previous Academic Integrity and Ethics Training Requirement has been replaced by the new Ethics and Academic Citizenship Requirement. This updated requirement will involve completing two self-paced online courses prior to program commencement both with zero credits: INT D 710: Ethics and Academic Citizenship. Importantly, there will be no instructional fees associated with these courses. These changes apply to both master's and doctoral students.
  - The Program Specific Capstone Course is mandatory for masters students. This is a 6 credit course that needs to be completed in order to graduate.
  - The Master of Management Analytics program will be offered on a full time basis, hence the program should be completed within the set time frame i.e. one year without internship and 16 months if students choose the internship option.
  - Each course will have its specific exam requirements- these usually include, individual and or group projects/presentations, mid term exams, case studies, and final exam. All courses will use one or more of the following methods of assessing student achievement as listed below.
    - **Traditional Assignments and Exams:** Problem-sets and exams will be utilized where relevant.
    - **Case Study Assignments:** These assignments will involve real-world scenarios, highlighting the significance of the organizational context in analytics projects. Students will apply diverse analytical techniques to address key management issues and produce reports accessible to those with limited analytics knowledge.
    - **Projects and Presentations:** Courses may require group projects on real-world analytics challenges, often too complex for an individual. These projects will result in either written reports or presentations, or both.

The student is responsible for successfully completing all course work and the capping exercise. Where the capping exercise involves a project, the student is responsible for producing a typed report of the project or some other finished product to be retained by the department.

It is the responsibility of the department to:

- verify that all courses and the capping exercise have been successfully completed before recommending a student for graduation; and
- submit to the FGPS a Report of Completion of Course-based Master's Degree form.

This information must be received and verified by the FGPS before the student's name is placed on the convocation list.<sup>2</sup>

The following figure outlines the essential minimum academic standards for graduate students as established by the Faculty of Graduate & Postdoctoral Studies. These criteria must be met satisfactorily for a graduate candidate to be eligible for the award of their intended degree.(GPS)<sup>3</sup>

### Course-Based Master's Programs

The student must successfully complete all coursework at the graduate level as required by their program.

The student must complete a capstone project or capping exercise as required by their program and commensurate with the degree being sought.

The student must complete the ethics and academic citizenship training ([INT D 710](#)) as required by FGSR.

- c. Identify potential opportunities for transfer/laddering into the proposed program from other institutions or other programs within the institution, and for transfer/laddering from the proposed program to other programs within the institution or at other institutions. List any formal agreements for internal or inter-institutional transfer/laddering that have been negotiated to this point.
- No laddering option at this stage.

## 6. Engaged and Active Learning / Delivery Methods

<sup>2</sup> [Regulations of the Faculty of Graduate Studies and Research - University of Alberta - Acalog ACMST™](#)

<sup>3</sup> [Faculty of Graduate Studies and Research General Information - University of Alberta - Acalog ACMST™](#)

- a. Discuss the pedagogical strategies used in the program, including rationale and resource implications where possible.

The program is built on robust pedagogical strategies that align with its core objective: training managers to design, lead, and execute data-driven projects across various industries. These strategies are designed to provide students with comprehensive knowledge and practical skills, enabling them to effectively apply state-of-the-art analytics tools in managerial decision making:

- **Project-Based Learning:** Central to our pedagogical approach is the emphasis on project-based learning. Throughout the program, students engage in real-world case studies, course projects, and a field project. This hands-on approach allows students to navigate the complete project development life cycle, from conception to application, gaining valuable experience and proficiency in executing data analytics projects effectively. Students, in collaboration with expert faculty, tackle real-world business problems, fostering practical decision-making skills.
- **Skill Development:** A critical aspect of the program is skill development. In the initial month, students participate in a coding bootcamp. This immersive 2-week program equips them with essential programming skills, providing a solid foundation in coding.
- **Multidisciplinary Learning:** The MMA program is structured around four major pillars, each focusing on different aspects of analytics. The interdisciplinary approach ensures that students have a well-rounded understanding of data interpretation, visualization, statistical analysis, and business analytics process management. They also learn how to apply analytical concepts to solve problems in diverse business functions, such as finance, marketing, operations, and human resources. This approach enhances students' ability to analyze data in broader organizational contexts and fosters strategic decision-making skills.
- **Experiential Learning:** The experiential learning pillar offers students real-world experience through internships. This practical application of theoretical concepts is conducted in Canada's thriving tech and digital economies. It includes a capstone management analytics project, community engagement, or internships. Experiential learning provides students with a dynamic platform to interact with professionals from leading analytics organizations, enriching their overall learning experience. It also necessitates resource allocation for arranging internships and maintaining industry partnerships.

The program's pedagogical strategies prioritize project-based learning, skill development, multidisciplinary education, and experiential learning. While these strategies have resource implications, they ensure that students graduate with both theoretical knowledge and the ability to apply it effectively in real-world scenarios, contributing to improved decision-making processes within organizations.

- b. Describe how engaged, active, and experiential learning will be encouraged.

At the heart of our program lies a commitment to fostering engaged, active, and experiential learning experiences that empower our students to thrive in the dynamic world of analytics. Our approach is designed to actively involve students in their educational journey, emphasizing practical applications of analytical skills.

- **Internships:** Students will have the opportunity to apply their classroom knowledge in real-world environments during two 8-week internships. These internships are strategically designed to encourage active learning. Students work on actual business problems, interact with industry professionals, and gain hands-on experience in data analytics. This practical exposure not only enhances their skills but also reinforces their understanding of how analytics is used in different industry sectors.
- **Capstone Management Analytics Project:** The capstone project is a culmination of students' learning journey, where they tackle complex analytics challenges. This project encourages students to actively engage with data, apply advanced analytical techniques, and work collaboratively to find innovative solutions. They learn how to define project scopes, gather and analyze data, and present their findings. This active involvement in a substantial project prepares them for real-world problem-solving scenarios.
- **Networking Opportunities:** Experiential learning extends to networking. Students have the chance to interact with professionals from leading analytics organizations. These interactions expose students to diverse perspectives, emerging trends, and real-world challenges, through a two-way exchange where students actively seek insights while sharing their own perspectives.
- **Reflective Learning:** Throughout their experiential learning journey, students are engaged in reflective practices. They document their experiences, challenges, and successes, actively analyzing how their classroom learning translates into practical solutions. This reflective approach enables them to fine-tune their analytical skills and adapt their knowledge to different contexts.
- **Feedback and Coaching:** Active learning also encompasses the provision of consistent feedback and guidance from both faculty members and career coaches. Throughout their internships and project assignments, students have the opportunity to receive valuable constructive feedback from industry mentors and faculty. This continuous feedback process enables students to actively adjust and refine their approaches, thereby enriching their overall learning experience.

By incorporating these elements, the program ensures that students are not passive recipients of knowledge but actively engaged participants in their learning journey. They apply their skills, interact with the community, and actively contribute to the field of analytics, making the learning process dynamic and enriching.

- c. Where applicable, demonstrate how CAQC’s Additional Quality Assessment Standards for Programs Delivered in Blended, Distributed or Distance Modes will be met (Handbook s. 4.5).

Not Applicable. The MMA program will be conducted entirely in an in-person, on-campus format.

## 7. Program Comparison

- a. Provide a comparative analysis of the proposed program (curriculum, structure, admission requirements, etc.) with similar programs offered in Alberta or elsewhere (see sample table below). Provide a rationale for which comparator programs were chosen. Illustrate the similarities and differences. Include hyperlinks to comparator programs, if possible.

We selected the comparator programs listed below based on their ranking as the top 7 business schools in Canada, according to Macleans Education's Top Business Programs-University Rankings 2024<sup>4</sup>. Among these, the University of Alberta School of Business holds the 6th position. These universities/business schools were chosen due to their similar curriculum offerings, program length and structure, entrance and graduation requirements.

**Table 7: Program Comparison- Canadian Universities**

| Institution               | University of Alberta (Applicant Institution) | <a href="#">York University- Schulich School of Business</a> | <a href="#">University of British Columbia - Sauder school of business</a> | <a href="#">University of Western Ontario- Ivey Business School</a> | <a href="#">McGill University</a> | <a href="#">University of Toronto-Ro tman school of management</a> | <a href="#">Smith School of Business- Queen's University</a> |
|---------------------------|---|--|--|---|-----------------------------------|--|--|
| <b>Name of Credential</b> | Masters in Management Analytics               | Master in Business Analytics                                 | Masters in Business Analytics  | Msc in Management-Business Analytics                                | Master of Management in Analytics | Master of Management in Analytics                                  | Master of Management in Analytics                            |
| <b>Enrollment</b>         | Full-time                                     | Full-time  | Full-time  | Full-Time   | Full-time                         | Full time  | Full time  |
| <b>Delivery Format</b>    | On campus                                     | On-campus  | On-campus  | On campus   | On Campus                         | On Campus  | On-campus/ blended   |

<sup>4</sup> [2024 Maclean's University Rankings: Business Programs - SchoolFinder.com!](#)

|                              |   |   |   |   |  |  |  |
|------------------------------|---|---|---|---|--|--|--|
| <b>Time to complete</b>      | One year without internship;<br>16 months with internship   | 12 months   | 12 months   | 16 months   | 1 year<br>Also offers 1.5 year option that includes internship   | 11 months  | 12 months  |
| <b>Entrance Requirements</b> | Undergraduate degree<br><br>GMAT/GRE not required<br><br>A minimum of 3.0 GPA<br><br>English proficiency: TOEFL minimum score 100 (minimum 23 in each dimension); or IELTS score of 7.5; minimum 6.5 in each dimension. | 4 year undergraduate degree. Must be 2 years full time study with an accredited institution where English is the official language of instruction,<br><br>Does not require GMAT or GRE<br><br>A minimum 3.0 GPA and above/B+ grade<br><br>English proficiency: TOEFL minimum score 100 (minimum 23 in each dimension); or IELTS | Three or four-year Bachelor's degree with a B+ average, or recognized equivalent from an accredited institution, Due to the rigorous nature of the program, it is strongly recommended that applicants have some exposure to university-level courses in topics like statistics, calculus, and linear algebra | An undergraduate degree completed within the past four years .<br><br>TOEFL (minimum internet-based score of 100)<br>IELTS General OR Academic (minimum total score of 7).<br><br>Strong course work in: Calculus, Linear Algebra, Statistics and | GMAT or GRE required, but not required for students graduating from U.S or Canadian universities<br>Undergraduate degree<br><br>IELTS Test score of 6.5 (or greater) if English is not your first language<br>OR<br>TOEFL (IBT); 86 overall, no less than 20 in each of the four components. | Appropriate four-year undergraduate degree or equivalent Relevant program such as (but not limited to)<br>Computer Science, Statistics, Mathematics , Engineering, Physical Science, Economics or Commerce.<br>Minimum B average across courses in the final year.<br><br>Evidence of proficiency in linear algebra, probability, statistics | Undergraduate degree from an accredited university in mathematics , business, computer science, economics, engineering or science. Including at least one mathematics or statistics course that covers hypothesis testing, linear regression, and their applications.<br><br>GMAT not required but recommended.<br>English language proficiency tests. |



|  |  |  |  |  |  |   |  |
|--|--|--|--|--|--|---|--|
|  |  | <p>score of 7.5; minimum 6.5 in each dimension.</p> <p>Work experience recommended, but not required</p> | <p>(or other courses in mathematics and statistics). Experience in computer programming, data analytics or mathematical modeling is also an asset.</p> <p>550 GMAT with at least a 50th percentile in the quantitative and verbal sections of the test.</p> <p>155 GRE score on both the verbal and quantitative sections.</p> <p>Test of English as a Foreign</p> | <p>Computer Science (with programming focus).</p> <p>GMAT/GRE optional</p> |  | <p>and calculus. Proficiency can be demonstrated through university level courses completed, with a minimum B grade in courses that cover the relevant topics.</p> <p>Evidence of proficiency in computer programming. Proficiency can be demonstrated through academic history, projects, work experience or extra-curricular activities.</p> <p>GMAT or GRE encouraged.</p> |  |
|--|--|--|--|--|--|---|--|



|  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|
|  |  |  | <p>language (TOEFL): 100, IELTS Indicator: 7.0 overall band, There is no minimum work experience requirement for entry into the UBC MBAN.</p> <p>Candidates with a lower academic average may be accepted if they have significant professional experience and/or a high GMAT/GRE score.</p> |  |  | <p>English language proficiency, Minimum TOEFL score of 100 is required, with a minimum of 22 in both writing and speaking, or a minimum IELTS Academic Test with a score of 7.0 with at least 6.5 across all bands.</p> |  |
|--|--|--|--|--|--|--|--|

|                                    |  |  |  |   |  |   |  |
|------------------------------------|--|--|--|---|--|---|--|
| <b>Areas of Study / curriculum</b> | <p>Introductory boot camp, Machine Learning for Business I (Programming: R), Data Visualization and Business Communications (Tableau), Database Fundamentals for Business Analysts (SQL), Probabilistic Models and Descriptive Analytics, Responsible AI &amp; Ethical Issues in Data Analytics, Machine Learning for Business II (mainly unstructured data)</p> | <p>Artificial Intelligence Fundamentals, Database Fundamentals, Data Science I, Project Management, Case Analysis and Presentation Skills, Predictive Modelling, Data Science II, Analytics Consulting Project, Models &amp; Applications in Operational Research, Visual Analytics and Modelling Management Accounting, Economic Forecasting and Analysis, Managerial Finance, Applications of Data Science in Finance,</p> | <p>Career Development, Analyzing and Modeling Uncertainty, Business Analytics Programming, Optimal Decision Making I, Descriptive and Predictive Business Analytics, Data Management for Business Analytics, Data Driven Marketing, Optimal Decision Making II, Decision Analysis Under Uncertainty, Business Immersion, Advanced Predictive</p> | <p>Art of Modelling; Business Statistics; Business Essentials; Accounting; Business Communications; Finance; Leadership / Organizational Behavior; Marketing; Operations; Strategy; Big Data Analytics; Simulation and Risk Analysis; Prescriptive Analytics and Optimization; Accounting; Governance &amp;</p> | <p>Coding Foundations for Analytics, Database and Distributed Systems for Analytics, Data Mining and Visualization, Mathematical and Statistical Foundations for Analytics, Multivariate Statistical Analysis, Decision Analytics, Managing Data Teams Ethical Leadership and Leading Change Data Analytics in Accounting, Independent Studies in Analytics 1, Independent</p> | <p>Analytics in Management, Data-Based Management Decisions, Analytics Colloquia, Management Analytics Practicum, Structuring and Visualizing Data for Analytics, Modeling Tools for Predictive Analytics, Machine Learning Analytics, Tools for Probabilistic Models and Prescriptive Analytics, Improving Customer Value with Analytics to Leveraging AI and Deep Learning Tools in Marketing, Analytics for Marketing Strategy, Analytic</p> | <p>Acquisition and management of data, AI Ethic and Policy, Analytics for Financial Market, Big Data Analytics, Intro to Management, Intro to Analytical Modeling, ML and AI, Operations &amp; Supply Chain Analytics, Predictive Modeling, Pricing Analytics, Entrepreneurship &amp; Innovation, Creating High-performance Teams, marketing Analytics, Leading Change</p> |
|------------------------------------|--|--|--|---|--|---|--|

|  |  |  |  |   |   |   |  |
|--|--|--|--|---|---|---|--|
|  | <p>including text analytics, network analytics, and image processing- Python) , Business Applications of Artificial Intelligence (Python) , Prescriptive Analytics (Python) , Capstone project</p> | <p>Management of Risk in Financial Institutions , Enterprise Risk Management &amp; Strategy, Artificial Intelligence in Business I, Artificial Intelligence in Business II, Marketing Management Research , Consumer Behaviour , Business Marketing , Service Marketing , Marketing Metrics , Advanced Spreadsheet Modelling &amp; Programming for Business , Supply Chain Management, Digital Transformation in Services , Service Operations</p> | <p>Business Analytics, Database Applications in Business Systems, Business Applications of Machine Learning, Process Fundamentals, Forecasting and Time Series Prediction , Customer Analytics, Simulation Modeling I: Data Processing and Monte Carlo Simulation, Supply Chain Management, Data Driven Investments, Pricing Analytics, Simulation</p> | <p>Risk; Causal Inference ; Competing in and with China; Data Driven Management; Data Management; Entrepreneurship &amp; Growth; Frontier Markets; Global Corporate Finance; Global Financial Markets; Global Supply Chain Management; Inequality and Business; Leading Responsibility; Macroec</p> | <p>t Studies in Analytics 2, Financial Valuation Analytics for Startups, Advanced Topics in Finance Analytics 1 , Text Analytics , Social Media Analytics , Analytics and Open Innovation , Healthcare Analytics , Security Analytics , Advanced Topics in Information Systems,, Advanced Topics in Strategy Analytics , Revenue Management , Operations and Supply Chain Analytics , Introduction to Artificial Intelligence</p> | <p>Insights using Accounting and Financial Data, Optimizing Supply Chain Management and Logistics, Service Analytics for Management Analysis.</p> |  |
|--|--|--|--|---|---|---|--|

|                                |   |  |  |   |   |                          |                          |
|--------------------------------|---|--|--|---|---|--------------------------|--------------------------|
|                                |   | Management, Managing Change, Negotiations .  | n<br>Modeling<br>II:<br>Queueing<br>and<br>Discrete<br>Event<br>Simulation,<br>Analytics<br>Leadership, and<br>Analytics<br>Internship . | conomics<br>for<br>Managers;<br>Managing<br>Risk in<br>Organizations;<br>Predictive<br>Analytics;<br>Pricing &<br>Revenue<br>Analytics;<br>Social<br>Media<br>Analytics<br>and<br>Digital<br>Marketing;<br>Sustainability;<br>Systems<br>Thinking;<br>Technology<br>and<br>Humanity . | and Deep<br>Learning ,<br>Advanced<br>Marketing<br>Analytics ,<br>Internet<br>Marketing<br>Analytics,,<br>Pricing<br>Analytics ,<br>Retail<br>Analytics ,<br>Advanced<br>Topics in<br>Marketing<br>Analytics ,<br>Talent<br>Analytics ,<br>Organizational<br>Network<br>Analysis ,<br>Advanced<br>Topics in<br>Organizational<br>Behaviour ,<br>Analytics<br>and<br>Solution<br>Consulting<br>Practicum ,<br>Analytics<br>Internship,,<br>Community<br>Analytics<br>Project |                          |                          |
| <b>Graduation Requirements</b> | Students must complete a capstone project and | Students must complete a total of 45 credits | Successful Completion of all   | Completion of 36 credits  | Completion of 45 credits  | Completion of 36 credits | Completion of 39 credits |

|                      |   |  |   |  |  |  |   |
|----------------------|---|--|---|--|--|--|---|
|                      | a total of<br>39 credits  |  | courses.<br>39 credits  |  |  |  |   |
|                      |   |  | 8-16 week<br>internship   |  |  |  |   |
| <b>Total Tuition</b> | Proposed \$40,000 for domestic and \$60,000 for international students. | \$54,000 CAD for domestic students<br>\$84,100 CAD for international students. | \$42,795 for domestic students<br>\$63,261 for international students | \$38,250 CAD for Domestic students<br>\$73,800 for international students. | \$49,256 for domestic students,<br>\$61,168 for international students | \$41,400 CAD for Domestic students<br>\$72,630 for international students. | \$43,840 for domestic students<br>\$79,900 CAD for international students |

Furthermore, the table below illustrates that a similar program has been available in the eastern provinces and British Columbia. Notably, there exists a geographical and skills gap between these regions that we aim to bridge. The Alberta School of Business is a highly regarded business school, and our decision to use these institutions as comparisons stems from our desire to offer similarly competitive and sought-after programs that align with our commitment to providing high-quality education to graduate students. Our primary objective is to support the thriving innovation-driven business community in Alberta.

**Table 8: Analogous Programs Launch Year**

| Institution  | First Cohort/Launch Date   |
|--|--|
| Rotman school of management, University of Toronto | <a href="#">Fall 2018</a> <sup>5</sup>   |
| Smith school of Business, Queen's University       | <a href="#">Fall 2013 (Celebrated 10 year anniversary September 2023)</a> <sup>6</sup> |
| UBC, Sauder School of Business                     | <a href="#">Fall 2017</a> <sup>7</sup>   |
| Ivey Business School                               | <a href="#">Fall 2021</a> <sup>8</sup>   |

<sup>5</sup> [The Management Analytics Practicum Fall presentations](#)

<sup>6</sup> <https://smith.queensu.ca/magazine/issues/spring-2023/file/SmithMagazine-Spring2023.pdf>

<sup>7</sup> [UBC Sauder launches UBC Master of Business Analytics](#)

<sup>8</sup> [Ivey launches advanced masters degree for analytics professionals | News & Events](#)

|   |   |
|---|---|
| Desautels School of Management, McGill University | <a href="#">Summer 2018<sup>9</sup></a> . <a href="#">Also, expanded the degree to a complete online delivery format in September 2023<sup>10</sup></a> |
| Schulich School of Business, York University      | First Canadian business school to launch in 2012 <sup>11</sup>  |

## 8. Other Elements Affecting Quality

- a. Note any other relevant aspects of the proposed program that might affect quality (e.g., fast-tracking, individual study, parts of the program to be offered in cooperation with another institution, prior learning assessment, transfer agreements (e.g., 2+2 type programs, etc.).

At present, the only external institution in collaboration will be the Alberta Machine Learning Institute (AMii) which will provide assistance in teaching 1-2 introductory courses. The involvement of the Alberta Machine Learning Institute (AMii) in these introductory courses is likely to positively impact the program's quality in several ways:

- **Expertise:** AMii's expertise in machine learning can enhance the quality of course content and instruction.
- **Industry-Relevance:** Collaboration with AMii ensures that course materials align with industry trends and demands.
- **Networking:** Students can benefit from networking opportunities and access to resources within AMii's ecosystem.
- **Improved Learning:** High-quality instruction can lead to improved student comprehension and skills development.

Overall, AMii's involvement is expected to contribute to a more robust and industry-relevant program.

## SECTION B: IMPLEMENTATION AND RESOURCES

### 1. Program Implementation Plan

<sup>9</sup> [Specialty graduate degrees spring up to meet emerging needs - The Globe and Mail](#)

<sup>10</sup> [McGill University expands its business analytics degree with online delivery](#)

<sup>11</sup> [Schulich launches new Master of Science in Business Analytics program - Research & Innovation](#)

- a. Provide a program implementation plan by academic year (start to maturity) that includes any elements to be phased in (e.g., new academic staff hires, courses, minors, co-op option). If introduction of this program is dependent on a similar program being phased out, the implementation plan should include how both programs are being supported until the phase out and start up are completed. Confirm that students will be given the option to complete the program in which they are originally registered, within the normal time to degree completion regulations, or to transfer to the new program. If this will not be the case, explain why.

### **Academic Year: Start to Maturity**

#### **Year 1**

##### **Month 1: August**

The program begins with a one-month intensive introductory phase in August, which serves as the program's launchpad, where students embark on a transformative learning experience. During this initial phase, students participate in a coding bootcamp, equipping them with essential programming and data manipulation skills. Simultaneously, they are introduced to core business principles, which establish a robust foundation for the entire program.

#### **Fall Term**

Transitioning from the introductory phase, the Fall term initiates the core curriculum of the MMA program. Emphasis is placed on the first pillar, Business Analytics Fundamentals. Throughout this term, students engage with courses that delve into data interpretation, data visualization, statistical analysis, machine learning in business, and advanced programming. This comprehensive approach equips students with the analytical tools and knowledge required to excel in the dynamic field of analytics.

#### **Winter Term**

As students progress into the Winter term, the focus shifts to the second pillar, Analytics Process and Management. This term is a deep dive into the complete analytics project lifecycle, emphasizing ethical considerations and data-informed decision-making. Students acquire not only the technical skills necessary for analytics but also the strategic insights required to make data-driven decisions within ethical frameworks.

#### **Spring and Summer Terms**

The Spring and Summer terms offer a unique and transformative opportunity for students to tailor their educational journey to their specific aspirations. These terms are designed to empower students, allowing them to select elective courses that align with their individual interests and career goals. Elective courses span a wide spectrum of functional areas, from finance to marketing, operations to healthcare, and beyond. This flexibility ensures that each student's Master of Management Analytics experience is uniquely customized, reflecting their distinct ambitions and aspirations.



Beyond the breadth of elective options, these terms also mark a crucial phase in the MMA program where students embark on their capstone projects. These projects represent the culmination of their academic journey, providing students with a hands-on opportunity to apply the skills, methodologies, and insights acquired throughout the program. Students work collaboratively in small teams, often alongside industry partners, to tackle real-world challenges. These projects are an invaluable opportunity to make a meaningful impact in various industries, such as finance, healthcare, marketing, or operations.

### **Year 2 (Optional Internship ~ 4 months)**

For students who opt to pursue the internship (4 months). This internship opportunity provides students with a bridge between theory and practice, offering real-world experience in the thriving tech and digital economies. This practical exposure not only enhances students' skill sets but also facilitates their transition into the professional realm, ensuring they are well-prepared to meet the challenges of the analytics industry. No additional credit requirements associated with the internship.

### **New Academic Staff Hires:**

To maintain a leadership position in the evolving field of Business Analytics, we have strategic plans to hire three tenure-track faculty members specializing in Business Analytics. These additions will bolster the program's development and research endeavors, extending their roles beyond teaching to encompass research, curriculum enhancement, and student mentorship. These faculty members will bring academic expertise and industry insights and connections, actively engaging in cutting-edge research. This commitment ensures that the MMA program remains at the forefront of emerging trends and technologies in Business Analytics, contributing to the program's academic environment and ongoing excellence.

### **Notes:**

As the program matures, we are open to enhancing the curriculum by introducing new courses that align with emerging industry trends and student demands. This proactive approach ensures that the MMA program remains at the forefront of analytics education.

In addition, we are open to exploring the introduction of certificate programs in Analytics to complement students' core MMA curriculum.

The MMA program is not dependent on the phase-out of any other program. As a result, there are no obligations to support any transition from existing programs.

## **2. Staffing Plan**

- a. Provide a comprehensive staffing plan. Show how the number (headcount and FTE) and qualifications of teaching staff meet CAQC's requirements and the objectives of the program as a whole. If the hiring of additional staff is planned, include the academic staff



expertise to be recruited. Provide summary information of current academic staff and new hires who will be teaching in the proposed program in the following format (see sample table below).

The faculty structure for the MMA program is designed to provide students with a diverse and dynamic learning experience. At its core, the Department of Accounting and Business Analytics will serve as the primary academic home for the program, with faculty members from this department taking on key instructional roles. They bring a wealth of expertise in analytics, data-driven decision-making, and business fundamentals.<sup>12</sup>

In addition to the core faculty members, the MMA program is committed to offering students a comprehensive education in analytics by harnessing the extensive expertise available within the Alberta School of Business. Faculty members from various departments within the School will be actively involved in teaching elective courses that align with their areas of specialization. This interdisciplinary approach ensures that students receive specialized knowledge and insights across multiple fields, enhancing their ability to apply analytics in diverse business contexts.

To maintain a leadership position in the evolving field of Business Analytics, we have strategic plans to hire three tenure-track faculty members specializing in Business Analytics to match with increasing the student intake. These additions will significantly bolster the program's development and research endeavors, extending their roles beyond teaching to encompass research, curriculum enhancement, and student mentorship. These faculty members will bring academic expertise but invaluable industry insights and connections, actively engaging in cutting-edge research. This commitment ensures that the MMA program remains at the forefront of emerging trends and technologies in Business Analytics, contributing to the program's academic environment and ongoing excellence.

**Table 9: Courses taught by academic staff by credential and specialization**  
**\*Please note: The list below includes potential instructors at the development stage who have expressed interest in developing curriculum and teaching the course(s). Final list of determined faculty is still in development.**

| Courses  | Potential Instructor                       | Earned credentials and specialization <sup>1</sup> | Professional designation (if applicable) | Academic staff status |
|--|--|--|--|-----------------------|
| MMA 600 Bootcamp                                     | in collaboration with Amii and ASB faculty |  |  |                       |
| MMA 601, One week course on Business Foundations and | <a href="#">Vern Glaser</a>                | PhD, Management and Organization                   | Associate Professor                      | Tenure                |

<sup>12</sup>[Department of Accounting and Business Analytics](#)

|  |  |  |                              |                         |
|--|--|--|------------------------------|-------------------------|
| Strategic Decision Making  |  |  |                              |                         |
| MMA 602 Data Visualization and Business Communications (Tableau) | <a href="#">Ingolfsson, Armaan</a>       | PhD in Operations Research                                     | Professor, Faculty           | Tenure                  |
| MMA603-Machine learning for business (programming -python)       | <a href="#">Borzou Rostami</a>           | PhD in Information and technology, supply chain specialization | Assistant Professor, Faculty | Tenure Track            |
|  | <a href="#">Ilbin Lee</a>                | PhD in Industrial and Operations Engineering                   | Assistant Professor Faculty  | Tenure                  |
|  | <a href="#">M. Hosein Zare</a>           | PhD in Operations Management                                   | Assistant Lecturer           | Academic Teaching Staff |
|  | <a href="#">Mohamad Soltani</a>          | PhD in Operations Management                                   | Assistant Professor, Faculty | Tenure Track            |
| MMA 604 Database Fundamentals for Business Analysts (SQL)        | <a href="#">Yonghua Ji</a>               | Phd in Information Systems                                     | Full Professor               | Tenure                  |
| MMA 605 Statistics Analytics and Causal Inference (R)            | <a href="#">Ivor Cribben</a>             | PhD in Statistics  | Professor, Faculty           | Tenure                  |
|  | <a href="#">Maryam Hasanzadeh Mofrad</a> | PhD Industrial Engineering                                     | Full Time Assistant Lecturer | Academic Teaching Staff |

|  |                                   |  |                              |                         |
|--|-----------------------------------|--|------------------------------|-------------------------|
| MMA 606-Machine learning for Business II (mainly unstructured data including text analytics, network analytics, and image processing-Python)   | Borzou Rostami                    | PhD in Information and technology, supply chain specialization | Assistant Professor, Faculty | Tenure Track            |
|  | <a href="#">Ilbin Lee</a>         | PhD in Industrial and Operations Engineering                   | Assistant Professor Faculty  | Tenure                  |
| MMA 607- Prescriptive Analytics (Python)   | Borzou Rostami                    | PhD in Information and technology, supply chain specialization | Assistant Professor, Faculty | Tenure Track            |
|  | <a href="#">Saied Samiedaluie</a> | PhD in operations management                                   | Associate Professor, Faculty | Tenure                  |
| MMA 608-Business Applications of Artificial Intelligence (Please note this course will be taught by a panel of instructors. The mentioned names are of instructors that will be on the panel on as needed basis and is subject to change every year) | <a href="#">Philippe Cote</a>     | MSc  | Full Executive Professor     | Academic Teaching Staff |
|  | <a href="#">Tito Grillo</a>       | PhD, Marketing   | Assistant Professor          | Tenure Track            |
|  | <a href="#">Borzou Rostami</a>    | PhD in Information and technology, supply chain specialization | Assistant Professor, Faculty | Tenure Track            |
|  | Saied Samiedaluie                 | PhD in operations management                                   | Associate Professor, Faculty | Tenure                  |

|  |  |   |                                |                         |
|--|--|---|--------------------------------|-------------------------|
|  | Maryam Hasanzadeh Mofrad               | PhD Industrial Engineering  | Full Time Assistant Lecturer   | Academic Teaching Staff |
|  | <a href="#">Robb Sombach</a>           | BA and Diploma in Computer Engineering Technology                 | Associate Executive Professor  | Academic Teaching Staff |
|  | <a href="#">Tim Hannigan</a>           | PhD, Management Research  | Associate Professor Faculty    | Tenure                  |
|  | Vern Glaser                            | PhD, Management and Organization                                  | Associate Professor, Faculty   | Tenure                  |
| MMA 609 Responsible AI & Ethical Issues in Data Analytics (addresses indigenous aspects as well) | In collaboration with Amii instructors | TBD   |                                |                         |
| MMA 610 Analytics Capstone Project   | TBD                                    |   |                                |                         |
| MMA 611 Accounting Analytics   | Robb Sombach                           | BA in Anthropology and Diploma in Computer Engineering Technology | Associate Executive Professor, | Academic Teaching Staff |
| MMA 612-Financial Analytics  | Phillipe Cote                          | MSc, Finance  | Full Executive Professor       | Academic Teaching Staff |
| MMA 613 Operations and supply chain Analytics  | <a href="#">Borzou Rostami</a>         | PhD in Information and technology, supply chain specialization    | Assistant Professor, Faculty   | Tenure Track            |

|  |                    |                              |                              |                         |
|--|--------------------|------------------------------|------------------------------|-------------------------|
|  | M. Hosein Zare     | PhD in Operations Management | Assistant Lecturer           | Academic Teaching Staff |
| MMA 614-Healthcare Analytics   | Samiedaluie, Saied | PhD in operations management | Associate Professor, Faculty | Tenure                  |
| MMA 615-Marketing Analytics  | Grillo, Tito       | PhD Marketing                | Assistant Professor, Faculty | Tenure Track            |
| MMA 616, Intro to Business, /Strategic Decision Making with data analytics | Glaser, Vern       | PhD                          | Assistant Professor, Faculty | Tenure                  |

<sup>1</sup> Include only the highest *earned* credential; if a faculty member is enrolled in a graduate program, indicate in a footnote. For new hires, indicate the desired credential and specialization.

\* Currently enrolled in a [Name of Program] at [Institution]. Expected to graduate in [Date].

- b. Explain the workload expectations for teaching, scholarship, and service of all of the academic staff categories involved in teaching this program.

There are 2 key types of faculty involved in this program:

1. **Tenure track/tenured faculty:** Typical workload is 40% research, 40% teaching, and 20% service.

2. **Academic Teaching Staff-:** Typical workload is 80% teaching, and 20% Service.

- c. Clearly indicate how many academic staff will be teaching in the program at launch and at maturity.

Overall, at the program's launch, the instructional team will consist of nine individual instructors, each responsible for one of the core courses. Except for MMA 608, the Business Applications of Artificial Intelligence, will be uniquely taught by a panel of 2-3 instructors. Additionally, six elective courses will be offered, each instructed by a single faculty member. For capstone projects, the staffing requirements may vary, with a need for 1-3 instructors, depending on the specific nature and number of projects. Refer to table 9 for the current team of instructors. Additionally, as the student intake increases, we will be hiring more instructors in the future.

- d. Identify any academic staff who will be teaching in the program who do not meet CAQC's requirements with respect to qualifications of academic staff as noted in s. 4.3.4.3 of the Handbook (normally an acceptable Master's degree or equivalent in the discipline in which the staff member is assigned to teach), and provide the rationale for claiming equivalence.
- Not Applicable
- e. For graduate programs, provide a detailed plan regarding the academic advising, supervision, and monitoring of graduate students, and state the credentials, graduate teaching experience, master's committee work/supervision, and PhD supervision experience of academic staff. For doctoral programs, a summary table such as the following would be helpful.

Refer to Table 10 below.

**Table 10: Academic Credentials, Graduate Teaching and Research Supervision of Full Time Faculty**

| Name               | Earned credential <sup>1</sup>    | Supervision of undergraduate research projects | Graduate teaching experience | Master's committee work / supervision |             | PhD supervision |
|--------------------|-----------------------------------|--|------------------------------|---------------------------------------|-------------|-----------------|
|                    |                                   |  |                              | Project                               | Thesis      |                 |
| Ingolfsson, Armann | PhD                               | √  | √                            | Sup                                   | Ext         | Sup/Com / Ext   |
| Ji, Yonghua        | PhD                               | √  | √                            |                                       |             | Com             |
| Glaser, Vern       | PhD                               | √  | √                            |                                       |             | Sup/Com / Ext   |
| Hannigan, Tim      | PhD                               | √  | √                            |                                       | Com         | Sup/Com/Ext     |
| Samiedaluie, Saied | PhD                               | √  | √                            |                                       | Sup         | Sup/Com/Ext     |
| Cribben, Ivor      | PhD                               | √  | √                            | Com/Sup                               | Com/Sup/Ext | Com/Sup/Ext     |
| Sombach, Rob       | BA (25 years industry experience) | √  | √                            | Sup                                   |             |                 |
| Rostami, Borzou    | PhD                               | √  | √                            | Sup                                   | Sup         | Sup/Com         |
| Lee, Ilbin         | PhD                               | √  | √                            |                                       | Com/Sup     | Com/Ext/Sup     |
| Soltani, Mohammad  | PhD                               | √  | √                            |                                       |             |                 |
| Mofrad, Maryam     | PhD                               | √  | √                            | Sup                                   |             | Sup             |
| Grillo, Tito       | PhD                               | √  | √                            |                                       | Com         | Com             |
| M. Hosein Zare     | PhD                               | √  | √                            | Sup                                   | Sup         |                 |
| Cote, Phillipe     | MSc                               | √  | √                            | Sup                                   |             |                 |

<sup>1</sup> Include only highest *earned* credential; if a faculty member is enrolled in a graduate program, indicate in a footnote along with expected completion date.

**Legend**

PhD = Doctor of Philosophy  
DMA = Doctor of Musical Arts  
EdD = Doctor of Education

Com = Committee Member  
Sup = Supervisor or Co-supervisor  
Ext = PhD External Examiner

f. Include CVs of academic staff teaching courses that comprise required or elective courses in the specialization. Be sure their permission has been given.

- See Appendix 10

### 3. Scholarly and Creative Activity

- a. Describe what constitutes scholarship and/or creative activity for academic staff teaching in this program. Explain the institution's and if relevant, the faculty's, school's, and/or department's formal policies articulating expectations of scholarly performance for instructors in the proposed program, and how evaluations of this performance are taken into account in overall assessments of instructors' performance.
- There are two types of academic staff who will be teaching in the proposed MMA program: full-time tenured or tenure track academics or academic teaching staff.
  - The School of Business has two version of standards:
    - 1) Academic Teaching Staff (ATS) standards.<sup>13</sup>
    - 2) Faculty Evaluation Committee Standards (FEC)<sup>14</sup> 2016 collective agreement (School of Business)<sup>15</sup>
- A. Full-time tenured or tenure-track faculty members are subject to the standards laid down in the Faculty Evaluation Committee Standards (FEC) 2016 collective agreement. The expectation is that they will conduct research and publish in the top peer reviewed business journals so that they may satisfy the tenure and promotion criteria of the Alberta School of Business. These academics are also subject to annual review by the Alberta School of Business Faculty Evaluation Committee (FEC) which makes recommendations as to whether an individual is continuing to meet the established scholarly research standards. The responsibilities of an Academic Faculty member shall include Teaching, Research and Service as described below. The proportion of Teaching, Research and Service shall be determined by agreement of the Department Chair and Academic Faculty member for the upcoming academic year, or as set out in the Academic Faculty member's Letter of Appointment. However, as described before, the usual proportion is 40/40/20
- **Teaching:** Participation in teaching programs, including classroom teaching, supervision of undergraduate and/or graduate students and personal interactions with and advising students.
  - **Research:** Participation in research (defined as including the preparation or performance of creative works and reflective inquiry) and the dissemination of the results of research by means appropriate to the discipline.

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<sup>13</sup> [ATS standards latest version- School of Business](#)

<sup>14</sup> Please note the latest version is currently under review for revision by the business council, hence as of now, we are adhering to the 2016 version.

<sup>15</sup> [FEC](#)



- **Service:** Provision of service to the discipline of the Academic Faculty member; participation in the governance of the University, the Faculty and the Department; and dissemination of knowledge to the general public by making available the Academic Faculty member's expertise and knowledge of the discipline, all of which shall be carried out according to the standards of professional conduct expected of an Academic Faculty member
- B. While academic teaching staff (ATS) typically have reduced research requirements, they are still encouraged to engage in scholarly activities. These activities may include: writing articles for professional journals or magazines, attending or presenting at conferences, investigations into new teaching techniques and/or creating original case materials which fairly represent issues in the rapidly changing business environment. It is expected that sessionals who are teaching in this program will have professional designations. Academic teaching staff are evaluated on their teaching, research and professional activities on an annual basis by their department chair and the FEC as per ATS standards.
- b. Describe current and anticipated support for scholarly activities and professional development of academic staff (see CAQC's expectations regarding scholarship, research, and creative activity in s. 3.7.3 of CAQC's Handbook). Highlight some of the existing strengths in scholarship relevant to the program, as well as key challenges.

The Alberta School of Business (School) provides abundant resources to academic faculty to support their scholarly activities and professional development.

- All faculty receive an annual professional expense allowance of \$1400 that can be used for professional development activities including books, journal subscriptions, conferences, equipment, membership dues.
- New faculty are provided with computing equipment to support their scholarly activities and professional development.
- New faculty receive start-up funding (\$20,000 per year for 4 years).
- Internal research funding is available through various Fellowships (1 and 3 year durations, up to \$20,000 per year) and endowed Chairs (5 and 7 year durations, up to \$35,000 per year). These competitive funding opportunities support the growth and development of junior faculty and help senior faculty maintain their research programs, ultimately increasing overall research output and impact.
- In conducting research, faculty partners with external organizations such as the City of Edmonton, Microsoft, AB Innovates, Alberta Gaming Research Institute, Canadian Institutes of Health Research, Department of National Defence, Edmonton Northlands, Canada Foundation For Innovation, Federal Reserve Bank of Philadelphia, MITACS Inc. amongst others.
- The School's PhD program has five specializations (marketing, finance, strategic entrepreneurship and management, accounting, operations), and offers faculty opportunities to train students as well as conduct research. The annual Business Research PhD conference showcases this work.
- Excellent library facilities provide support for scholarly activities and professional development with online access to journals, financial databases, market research, etc.

- A dedicated Research Coordinator provides support and consultation for faculty to help prepare and submit grant applications.
- The School provides and maintains infrastructure (e.g., servers, behavioral lab) that enables faculty to conduct research.
- The School actively encourages academic, student, and Postdoctoral visitors to the university with the goal of fostering and supporting collaboration.
- The School has a support system in place for scholarship that enables academic faculty members to pursue external research funding. Our recent annual grant funding totals were \$5.2 million. (2019-2023)
- The Research Services Office (RSO) maintains a funding database where different types of funding programs and deadlines are listed. The exhaustive list can be found on the School of Business Website<sup>16</sup>
- The Office of Research<sup>17</sup> within the College of Social Sciences and Humanities, which includes the business faculty, provides specialized research support to our researchers. This support includes the below but are not limited to::
- [Organizing Workshops](#)
- [Internal Peer Review](#)
- [Funding Opportunity Database](#)
- [Post Funding Guidance and Advice](#)
- The Digital Scholarship Centre (DSC) is an academic hub established to support and enhance scholarly activities, notably in research and teaching. The center specializes in developing expertise in research methodologies and practices that incorporate digital technologies. It offers assistance in learning and utilizing various tools and software for projects, teaching, research, and other applications. Additionally, the DSC provides guidance to researchers and their teams on incorporating digital strategies in their projects from the inception stage. The center also offers consultancy for grant applications, aiding researchers in integrating digital methodologies into their project proposals.<sup>18</sup>
- Additionally, the research impact center provides extensive support and guidance to our researchers by offering training and information sessions on a variety of data collection tools and resources.<sup>19</sup>
- The Alberta School of Business also organizes department-specific yearly conferences.<sup>20</sup> and regular speaker series that held discussions on various research topics.<sup>21</sup>

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<sup>16</sup>

<https://www.ualberta.ca/research/services/funding-awards/funding-opportunities/index.html?fundingtype=ResearchSupport>

<sup>17</sup> [Office of Research | College of Social Sciences + Humanities](#)

<sup>18</sup> [Digital Scholarship Centre](#)

<sup>19</sup> [Research Impact Services](#)

<sup>20</sup> [Conferences | Accounting and Business Analytics](#)

<sup>21</sup> [CPA Research Speaker Series | Accounting and Business Analytics](#)

- The Faculty of Business, one of the four faculties of the College of Social Sciences and Humanities, is included in the University's Research Support Fund. This fund assists with the indirect costs associated with federally funded research.<sup>22</sup>
- ASB also publishes a bi annual newsletter that highlights achievements of our faculty's research and acts as an information source for upcoming deadlines, events and publications.<sup>23</sup>
- The research interests of several analytics faculty members are showcased [here](#).

The faculty of the Department of Accounting and Business Analytics is a major asset and strength for our research capabilities.<sup>24</sup> Their work is frequently published in leading business journals and has gained recent recognition. In general, the faculty members at the Alberta School of Business have achieved significant success and acclaim in the research field.

#### 4. Physical and Technical Infrastructure

- a. Describe the facilities, laboratory, and computer equipment (as applicable), and any additional infrastructure available to meet the specialized demands of the program, as well as plans to address any deficiencies in what might be required.

It is important for students to have access to state-of-the-art equipment, technology, and facilities to allow them to gain hands-on experience with the tools and technologies that are currently used in industry, which prepares them to be competitive in the job market, advance the innovation ecosystem, and make an impact in the field. The table below lists classrooms and breakout meeting rooms available to facilitate peer learning and collaboration. Meeting rooms are available to students for group work on the 3rd floor and 5th floor, in addition to blended learning classrooms on the 4th floor of the Business Building.

Additionally, the newly opened Carruthers Student Commons on the main floor is a hub designed for collaboration complete with meeting rooms, working spaces, a co-work living lounge, a network lounge, a cafe and more. (See floor plan below)

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<sup>22</sup> [Research Support Fund](#)

<sup>23</sup> [Research Focus Newsletter](#)

<sup>24</sup> [Featured Research | Alberta School of Business](#)

## CARRUTHERS STUDENT COMMONS – MAIN FLOOR



● Phone/video conference rooms

- 1-18J
- 1-18O
- 1-18R

● Student Meeting Rooms

- 1-18H Ralph and Gay Young Room
- 1-18I
- 1-18K
- 1-18L
- 1-18M Naqvi-Rota Family Room
- 1-18N
- 1-18P Eileen E. Gilles Room
- 1-18Q

● Student Clubs Space

- 1-18E

Event Spaces Available:

- 1-18B Mackenzie Family Atrium
- 1-18C CPA Community Space
- 1-18F Sinclair Family Boardroom

**Table 8: Centrally-scheduled Classroom Facilities (Unless otherwise noted, all classrooms have technology, whiteboards, and furniture.)**

| Building | Room Number | Seats | Furniture Type       | Room Type | Characteristics | Space Managed By       |
|----------|-------------|-------|----------------------|-----------|-----------------|------------------------|
| Business | B-05        | 50    | Classroom - Eclectic | Classroom |                 | RO Exams & Timetabling |
| Business | B-09        | 50    | Classroom - Eclectic | Classroom |                 | RO Exams & Timetabling |
| Business | 1-05        | 88    | Classroom - Eclectic | Classroom | camera          | RO Exams & Timetabling |
| Business | 1-06        | 58    | Classroom - Eclectic | Classroom |                 | RO Exams & Timetabling |
| Business | 1-09        | 88    | Classroom - Eclectic | Classroom | camera          | RO Exams & Timetabling |

|          |               |    |                                |                    |                   |                        |
|----------|---------------|----|--------------------------------|--------------------|-------------------|------------------------|
| Business | 1-10          | 58 | Classroom - Eclectic           | Classroom          |                   | RO Exams & Timetabling |
| Business | 2-05          | 88 | Classroom - Eclectic           | Classroom          | camera            | RO Exams & Timetabling |
| Business | 2-09          | 88 | Classroom - Eclectic           | Classroom          | camera            | RO Exams & Timetabling |
| Business | 3-05          | 88 | Classroom - Eclectic           | Classroom          | camera            | RO Exams & Timetabling |
| Business | 3-07A         | 6  | Small meeting rooms            | small meeting room | TV                | Library System         |
| Business | 3-07B         | 6  | Small meeting rooms            | small meeting room | TV                | Library System         |
| Business | 3-07C         | 6  | Small meeting rooms            | small meeting room | TV                | Library System         |
| Business | 3-06          | 58 | Classroom - Eclectic           | Classroom          |                   | RO Exams & Timetabling |
| Business | 3-09          | 20 | Study Lab                      | Lab                |                   | RO Exams & Timetabling |
| Business | 3-10          | 50 | Classroom - Eclectic           | Classroom          |                   | RO Exams & Timetabling |
| Business | 5-13          | 40 | Classroom - moveable furniture | Classroom          | camera            | MBA Office             |
| Business | 5-40A & 5-40B | 60 | Classroom - moveable furniture | Classroom          | projector/s creen | MBA Office             |
| Business | 5-24          | 6  | Small meeting room             | Small meeting room | none              | MBA Office             |
| Business | 5-26          | 6  | Small meeting room             | Small meeting room | none              | MBA Office             |
| Business | 5-28          | 6  | Small Meeting room             | Small meeting room | none              | MBA Office             |

**Table 9:- Computer Labs**

| Building | Room Number | Seats/Stations | Hours | Room Type | Space Managed By |
|----------|-------------|----------------|-------|-----------|------------------|
|----------|-------------|----------------|-------|-----------|------------------|

|          |                       |    |   |     |                           |
|----------|-----------------------|----|---|-----|---------------------------|
| Business | B-18                  | 32 | 24/7  | Lab | IST                       |
| Business | B-24                  | 43 | 24/7  | Lab | IST                       |
| Business | B-28                  | 49 | 24/7  | Lab | IST                       |
| Business | Bloomberg Lab<br>B-12 | 18 | Access during<br>assigned class<br>hours only | Lab | Department of<br>Finance  |
| Business | BUS 3-09              | 20 | 24/7  | Lab | RO Exams &<br>Timetabling |

In addition to the mentioned labs, the school will also utilize the trading and analytics lab located on the second floor of the business building, providing an extra facility. And install additional software as necessary for the program. The University of Alberta also has partnership with Amazon Web Services that will be beneficial by gaining access to cloud computing resources to advance machine learning and artificial intelligence initiatives.

**Table 10:- Installed Software**

| Common installed software across all labs |
|---|
| @Risk / Decision Tools                    |
| ACL Desktop                               |
| ExtendSIM                                 |
| Forecast X                                |
| Hot2XP                                    |
| MarkStrat Tools                           |
| MS Visual Studio Professional             |
| R for Windows                             |
| R-Studio                                  |
| Rational Unified Process                  |
| Weka                                      |
| Win - Adobe Acrobat Reader                |
| Win - Alternatiff                         |
| Win - CPC View Lite                       |
| Win - Foxit Reader                        |
| Win - GhostScript                         |
| Win - Google Chrome                       |

|  |
|--|
| Win - Google Earth                       |
| Win - GSView                             |
| Win - IrfanView                          |
| Win - Java                               |
| Win - JAWS (SSDS)                        |
| Win - Kurzweil 3000 (SSDS)               |
| Win - Lockdown Browser                   |
| Win - Microsoft Endpoint Protection (AV) |
| Win - Microsoft Office 2010              |
| Win - Mozilla Firefox                    |
| Win - MS Internet Explorer               |
| Win - OnePrint (OneCard Printing)        |
| Win - OpenAFS                            |
| Win - ProQuest for Word                  |
| Win - Putty                              |
| Win - Read and Write (SSDS)              |
| Win - SCP                                |
| Win - SDSS Software                      |
| Win - SPSS                               |
| Win - VLC Media Player                   |
| Win - WinAmp                             |
| Win - ZoomText (SSDS)                    |
| WinZip                                   |

## 5. Information Services

- a. Provide an inventory and analysis of information resources to support the program (using standard library reference guides), plans to deal with any deficiencies, and a description of student access to other information services.
  - Refer Appendix 9 for Library Impact Statement

## SECTION C: CONSULTATION AND ASSESSMENT



## 1. Program Evaluation

- a. Describe the criteria and methods which will be used to ensure the ongoing quality of the program. Include mechanisms for periodic review using external evaluation. Describe the mechanisms to be used for critically assessing the extent to which the program learning outcomes have been met , and any key performance indicators that the institution wishes to include.

Mechanisms for periodic external evaluation are presently in development pertaining specific to this program. The MMA advisory committee will play a key role in ensuring the quality of the program is of exceptional quality and evolving with changing industry environments.

In addition to the rigorous Quality Assurance Suite of Activities at the University of Alberta, run out of the Office of the Provost and Vice-President (Academic), as an accredited program under *The Association to Advance Collegiate Schools of Business (AACSB)*, the MMA program will undergo a mandatory curriculum review every five years to maintain its certification and standards. Typically, this review process involves appointing an external evaluator from other academic institutions to assess the curriculum and offer feedback.

The Assurance of Learning committee (AOL), which operates under the direct supervision of the Business Faculty Council chaired by the Dean, is tasked with conducting these program evaluations. The MMA program will adhere to these established evaluation and quality assurance protocols that will align with the program's learning objectives.

## 2. Consultation / Accreditation or Regulatory Approval

- a. If not already included in Part A of the proposal, outline the consultation that has occurred with other institutions, organizations or agencies, including advisory bodies formed by the applicant institution, to assist in program design, implementation, and evaluation. This should include, where appropriate, professional associations, regulatory agencies and/or accrediting bodies, and prospective employers.
  - All consultations listed in Appendix 4 A, B and C
  - Letters of support - See Appendix 12
- b. If the program is subject to accreditation or approval of a regulatory body, provide a description of the review process, requirements of the body, and timing of the review (if in process). If possible, a chart or table may be useful to outline accreditation or regulatory approval requirements.

The Alberta School of Business is accredited by the AACSB. AACSB accreditation is a voluntary, nongovernmental process that includes a rigorous external review of a school's mission, faculty qualifications, curricula, and ability to provide the highest-quality



programs. AACSB's accreditation processes are ISO 9001:2015 certified. The School must show that it meets the accreditation standards set out by AACSB through undergoing a continuous improvement review (CIR) every five years. As part of the CIR the School is required to prepare a detailed report and have a peer review team visit. Our School's last CIR period was 2016/17 - 2020/21, and current period is 2021/22 - 2025/26. The first period that the Masters of Management Analytics program will be a part of the CIR will be 2026/27 - 2030/31. See Appendix 10 for Continuous Improvement Review Timeline.

- c. If not already covered above, indicate how graduates will meet professional or regulatory expectations.

At the program's conclusion, graduates who have fulfilled the necessary credit requirements, successfully completed a mandatory capstone project, and maintained satisfactory academic performance will receive a Master of Management Analytics degree from the Alberta School of Business. It's important to note that this program is not subject to regulatory expectations imposed by any external body.

### 3. Reports of Independent Academic Experts

- a. CAQC views external peer review as fundamental to ensuring the quality of academic programs. In order to strengthen the proposal, before the proposal is finalized, the institution must solicit comprehensive reviews of the proposal from two or more independent academic experts it selects from outside the institution. Terms of reference must be provided to the reviewers (see Appendix G of the CAQC Handbook for sample terms of reference), as well as up-to-date drafts of Part A and Part B of the proposal, and appendices. Please append the full reports of the independent academic experts, the institution's response to the reports, and CVs from the independent academic experts (see Appendix G of the CAQC Handbook for guidelines on the selection and use of Independent Academic Experts).

Pending

## SECTION D: OTHER

### 1. Adverse Claims or Allegations

- a. Disclose any adverse claims or allegations (and, if possible, identify their provenance) that might affect this application or be of concern to CAQC.  
Not Applicable

### 2. Other Documentation

- a. Provide any other supporting documents such as the Graduate Program Handbook, Faculty Handbook, current calendar, or cyclical review of programs policy that would add support to the applicant's case and would help reviewers (provide website links, if available).

Graduate Program Manual

<https://www.ualberta.ca/graduate-studies/about/graduate-program-manual/index.html>

*Note the Statement of Institutional Integrity  
which appears on the separate page below.*

### 3. Statement of Institutional Integrity

Please sign the Statement of Institutional Integrity below.

A signed Statement of Institutional Integrity must accompany each application (self-study and program proposal), as well as each revised program proposal, to the Campus Alberta Quality Council.

In the institutional integrity section of the Campus Alberta Quality Council's *Academic Freedom and Scholarship Policy*, the following statements are made:

- The institution must present itself accurately and truthfully in all of its written documents. This includes the manner in which it describes its qualities and programs and compares them with other institutions.
- Full compliance with legal matters such as copyright law is expected.

On behalf of the University of Alberta, School of Business, I/we attest that, to the best of my/our knowledge, the information presented in this application is complete and accurate and reflects the highest standards of institutional integrity.

Signed by

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*President of Institution*

*(for applications from institutions not authorized to offer a government-approved degree program)*

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*Board Chair of Institution*

*(for applications from institutions not authorized to offer a government-approved degree program)*

OR

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*Senior Academic Officer*

*(for subsequent program proposals from institutions authorized to offer at least one government-approved degree program)*

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*Date*



|  |   |
|--|---|
| Faculty (& Department or Academic Unit):   | Faculty of Business, Masters Programs, Department of Accounting and Business Analytics  |
| Contact Person:  | Dr. Michael Maier (Associate Dean, Masters Programs and Executive Education), Dr. Borzou Rostami (Academic Director and Assistant Professor- Department of Accounting and Business Analytics) |
| Level of change: (choose one only)   | <input type="checkbox"/> Undergraduate<br><input checked="" type="checkbox"/> Graduate  |
| Type of change request: (check all that apply)   | <input checked="" type="checkbox"/> Program<br><input type="checkbox"/> Regulation  |
| For which term is this intended to take effect?  | Fall 2024   |
| Does this proposal have corresponding course changes? (Should be submitted at the same time) |   |

### Rationale

*Things to consider (maximum 500 words): Why is this being changed; How will it benefit students/department/unit; How is this comparable to similar programs (internal or external); Historical context; Impacts to administration or program structure; Consultation with stakeholders*

Despite the increasing awareness of data's crucial role in business success, most firms have not effectively transformed their organizations to harness its full potential. This sobering fact is likely due to the realization that simply having data and computing capacity is not enough to make effective data-driven managerial decisions. There is a critical need for management training programs that align with the technological and social changes surrounding data utilization. Such programs are essential to equip individuals with the skills and knowledge required to make effective, responsible, competitive, and ethical use of data. The program is built on four pillars, each essential for a comprehensive understanding of business analytics. These pillars encompass business analytics fundamentals, providing a solid foundation; business analytics process and management, ensuring effective implementation; analytics applications across various business functional areas, demonstrating versatility; and experiential learning, offering hands-on, real-world experience. Therefore, the courses listed below are in the process of being developed and will be customized for this specific program.

### Calendar Copy

URL in current Calendar (or "New page")  
New Page

**Proposed Copy:** New Program

### **Master of Management Analytics**

Master of Management Analytics (MMA) program will focus on training managers to design, lead and execute data driven projects across organizations. The program is meticulously designed around four key pillars, each essential for a comprehensive understanding of business analytics. These pillars encompass business analytics fundamentals, providing a solid foundation; business analytics process and management, ensuring effective implementation; analytics applications across various business functional areas, demonstrating versatility; and experiential learning, offering hands-on, real-world experience.

#### **Program Requirements:**

Students are required to complete 39 units in coursework-including a 6- unit capstone project.

#### **Entrance Requirements:**

Applicants holding an undergraduate degree in STEM related courses and/or Business Courses.

#### **Course Work: (Courses are currently under development)**

#### **Core Requirements:**

MMA 600 - Bootcamp coding (Python, R) (No credit)

MMA 601 - One week course on Business Foundations and Strategic Decision Making (3 Credit)

MMA 602 - Data Visualization and Business Communications (Tableau, Power BI)(3 Credit)

MMA 603 - Machine Learning for Business I (Programming: Python)(3 Credit)

MMA 604 - Database Fundamentals for Business Analysts (SQL)(3 Credit)

MMA 605 - Statistics Analytics and Causal Inference (R)(3 Credit)

MMA 606 -Machine Learning for Business II (mainly unstructured data including text analytics, network analytics, and image processing- Python)(3 Credit)

MMA 607 - Prescriptive Analytics (Python)(3 Credit)

MMA 608 - Business Applications of Artificial Intelligence(3 Credit)

MMA 609 - Responsible AI & Ethical Issues in Data Analytics (3 Credit)

MMA 610 - Analytics Capstone Project (6 Credits). Capstone will be offered over two terms (spring and summer along with 2 electives)

#### **2 Electives Selected from:**

MMA 611 - Accounting Analytics

MMA 612 - Financial Analytics

MMA 613 - Operations and Supply Chain Analytics

MMA 614 - Marketing Analytics

MMA 615 - Healthcare Analytics

MMA 616 - Strategy Analytics

**Ethics Requirement:**

The FGPS Academic Integrity and Ethics Training will be fulfilled through registration in [INT D 710: Ethics and Academic Citizenship](#)

**Professional Development Requirement:**

Students in the MMA program fulfill the FGPS professional development requirement through their program.

**Length of Program:**

The MMA Program offers two streams for students to choose:  
1) One year program without internship; and 2) 16 months program with internship.

**Reviewed/Approved by:**

**REQUIRED:** Faculty Council (or delegate) and approval date.

1. Proposed by Dr. Borzou Rostami (Assistant Professor, Department of Accounting and Business Analytics and MMA Academic Director), and Dr. Michael Maier, Associate Dean, Masters Programs and Executive Education).
2. Reviewed and Approved by Business Council - January 8, 2024

**OPTIONAL:** Other internal faculty approving bodies, consultation groups, or departments, and approval dates.

## List of Appendices

Appendix 1: [Program Description](#)

Appendix 2A: [Class Size of Comparator Programs in Canada \(Domestic/International\)](#)

Appendix 2B: [Class Profiles Comparator Programs in USA \(Domestic/International\)](#)

Appendix 3: [Business Analysts Jobs- Major Canadian Cities](#)

Appendix 4A: [Industry Consultation Meetings](#)

Appendix 4B : [Alberta School of Business, Internal Consultations](#)

Appendix 4C: [Meeting Summary with Dr. Michael Palvin, Associate Professor and MMA Academic Director, Wilfrid Laurier University](#)

Appendix 5: [Comparative Analysis of Programs in Canada](#)

Appendix 6: [Alberta School of Business Current Student and Alumni Survey comments.](#)

Appendix 7: [Mid-Senior Management-Level Job Titles and Descriptions](#)

Appendix 8: [Proposed Calendar Descriptions with credits/term offered/hours:](#)

Appendix 9: [Library Impact Statement](#)

Appendix 10: [Continuous Improvement Review Timeline](#)

Appendix 11: [Instructor CVs](#)

Appendix 12: [Letters of Support](#)

Appendix 13: [External Reviewers Report](#) (Pending)



## APPENDIX 1: PROGRAM DESCRIPTION

### i. Background

Technical advances in information technology and engineering, along with social changes in how consumers approach technology – exemplified by the growth in handheld devices, the Internet of Things, social media, and e-commerce – have resulted in enterprises having access to unparalleled volumes of data. This change in data availability has been accompanied by rapid scientific and engineering developments in computer science, statistics, and related disciplines, which have led to the development of methods to manage the scale of data and make efficient and accurate predictions. Engineering solutions to the volume of data, exemplified by cloud computing, allow firms to scale their storage requirements cheaply and easily. These rapid changes provide opportunities and challenges across industries as organizations attempt to adapt and compete in this new environment. Despite the increasing awareness of data's crucial role in business success, most firms have not effectively transformed their organizations to harness its full potential. A recent study<sup>1</sup> highlights that only 23.9% of companies consider themselves data-driven, and only 20.6% assert having successfully developed a data-centric culture within their operations. This sobering fact is likely due to the realization that simply having data and computing capacity is not enough to make effective data-driven managerial decisions. There is a critical need for management training programs that align with the technological and social changes surrounding data utilization. Such programs are essential to equip individuals with the skills and knowledge required to make effective, responsible, competitive, and ethical use of data.

### ii. Program Oversight

The Master of Management Analytics program is a 1-year program without internship and 16 months with internship, full-time, course-based master's degree program. The total credits of the entire program is 39 credits. This program is designed for students who have recently graduated with an undergraduate degree in STEM, Business, or other disciplines within the College of Social Sciences and Humanities, including Arts, Education, and Law. The program will be administered and delivered at the Alberta School of Business (ASB). The ASB has demonstrated abilities to deliver excellent management programs, as exemplified by the Bachelor of Commerce and the Master of Business Administration. The School has a long history of research and teaching at the intersection of business and technology and is well-positioned to deliver this program. The program is led by the program's dedicated Academic Director from the ASB and is overseen by an Advisory Committee consisting

<sup>1</sup> [1] [Survey, Data and analysis annual leadership, https://www.newvantage.com/files/ugd/e5361a\\_247885043758499ba090f7a5f510cf7c.pdf, 2023. pages](https://www.newvantage.com/files/ugd/e5361a_247885043758499ba090f7a5f510cf7c.pdf)

primarily of seasoned industry experts. These individuals play a pivotal role in shaping the program's curriculum, ensuring its alignment with real-world business needs, and maintaining its relevance in the dynamic field of analytics.

#### **ii. Calendar Description:**

The Master of Management Analytics (MMA) program will focus on training managers to design, lead and execute data driven projects across organizations. The program is meticulously designed around four key pillars, each essential for a comprehensive understanding of business analytics. These pillars encompass business analytics fundamentals, providing a solid foundation; business analytics process and management, ensuring effective implementation; analytics applications across various business functional areas, demonstrating versatility; and experiential learning, offering hands-on, real-world experience.

The MMA is a 1-year program without internship and 16 months with internship, full-time, course-based master's degree program.

#### **MMA Advisory Committee**

Role of Academic Director:

- *Academic Leadership:* The academic director provides academic leadership, ensuring that the program's curriculum adheres to rigorous educational standards, in addition to overseeing faculty engagement, course development, and academic research initiatives.
- *Industry-Academia Synergy:* The academic director acts as a bridge between the academic realm and industry, liaising with the Advisory Board and industry partners to facilitate collaborations, internships, and research projects that enhance students' practical exposure.
- *Continuous Enhancement:* The academic director is committed to the program's continuous improvement, actively seeking feedback from students, faculty, and industry partners to refine the program's quality and relevance.

Role of Advisory Committee Members: (in its initial stage of development)

- *Curriculum Development:* Advisory board members actively participate in the design and evolution of the program's curriculum, providing insights into emerging trends, technologies, and industry-specific needs, helping to shape the courses and content.
- *Industry Insights:* With their wealth of industry experience, advisory board members offer invaluable insights into the practical challenges and opportunities that students are likely to encounter in the analytics field. This ensures that the program remains aligned with current industry demands.
- *Networking and Partnerships:* Advisory Board members often bring extensive industry networks to the table. They are able to facilitate partnerships, internships, and job placement opportunities for students, enhancing their overall learning experience and career prospects.
- *Quality Assurance:* In addition to the rigorous Quality Assurance Suite of Activities at the University of Alberta, run out of the Office of the Provost and Vice-President (Academic), the Advisory Committee members serve as a quality control mechanism, ensuring that the program maintains the highest

standards of excellence, providing feedback on the program's effectiveness and suggest improvements based on industry best practices.

- *Mentorship and Guest Lectures:* Advisory Committee members may engage directly with students through mentorship programs or by delivering guest lectures. This exposure to industry leaders can inspire and motivate students while providing practical insights.

MMA Advisory Committee Participants (Tentative structure)

|   |     |
|---|-----|
| Academic Program Director- Department of Accounting and Business Analytics, Committee Chair | TBD |
| Department of Strategy, Entrepreneurship and Management Academic Representative             | TBD |
| Department of Finance Academic Representative   | TBD |
| Department of Marketing, Business Economics and Law Academic Representative                 | TBD |
| Vice-Provost and Dean of the Faculty of Graduate and Postdoctoral Studies                   | TBD |
| Committee Coordinator   | TBD |
| Industry Representatives (6)  | TBD |
| Student Representatives (2) (analytics background/interest)                                 | TBD |

iii. Program Structure

The program will focus on training managers to design, lead and execute data driven projects across industries. The main objective of the MMA program is to equip students with comprehensive knowledge and practical skills to effectively apply state-of-the-art analytics tools. By doing so, students will be able to leverage available resources, gain valuable business insights, and make informed operational and strategic decisions. Throughout the program, students will successfully demonstrate their ability to design and move data analytics projects from conception to application. Students will solve a real-world business problem with their student team and learn from expert faculty from a range of backgrounds about how analytics can improve business performance. A key focus of the program is to enable students to identify and evaluate opportunities and risks associated with data analytics projects. By developing a deep understanding of the potential benefits and challenges, students will be equipped to make informed decisions and contribute to the success of data analytics initiatives.

To achieve these learning objectives, the program emphasizes the project development life cycle. Through engaging case studies, course projects, and a field project, students will have the opportunity to apply their knowledge and skills in practical settings. This hands-on approach will enable them to navigate the various stages of project development, gaining valuable experience and proficiency in executing data analytics projects effectively. By the end of the program, students will have not only acquired theoretical knowledge but also demonstrated their ability to apply it in real-world scenarios. They will possess the necessary skills to design and execute data analytics projects and contribute to improved decision making processes within organizations.

Kicking off in August, the program's first month offers a comprehensive introduction to both coding and business fundamentals. Students will participate in an immersive, 2-week coding bootcamp, carefully designed to equip them with a solid foundation in programming logic and essential concepts. This coding bootcamp serves as a vital launchpad for the entire program, ensuring that all participants are well-prepared for the more advanced segments of the curriculum. By gaining a strong grasp of coding principles, students will have the necessary skills to tackle complex analytical challenges throughout the duration of the program.

| Length   | August                                | Fall     | Winter   | Spring          | Summer          | Fall       |
|----------|---------------------------------------|----------|----------|-----------------|-----------------|------------|
| Option 1 | Coding Bootcamp and Intro To Business | Pillar 1 | Pillar 2 | Pillars 3 and 4 | Pillars 3 and 4 | -          |
| Option 2 | Coding Bootcamp and Intro To Business | Pillar 1 | Pillar 2 | Pillars 3 and 4 | Pillars 3 and 4 | Internship |

Table 1: The MMA offers a 16 month option that includes an internship for students interested in gaining additional professional experience prior to graduation. Choosing the internship option will have no additional credit requirement associated with it.

In addition to the coding bootcamp, the first month includes an in-depth introduction to the core principles of business. This component of the program aims to provide students with a well-rounded understanding of the business landscape, enhancing their ability to analyze data in a broader organizational context.

Following the bootcamp, students will then enter the Fall term, where they will delve into the core curriculum of the MMA program. The MMA is structured around four major pillars, providing comprehensive knowledge and training in various aspects of analytics:

- **Business analytics fundamentals:** This pillar covers the essentials of data interpretation, visualization, and statistical analysis. This pillar also reinforces the coding and data manipulation skills introduced in the bootcamp, enabling students to engage more effectively with analytics tools and models.
- **Business analytics process and management:** This pillar emphasizes the complete lifecycle of analytics projects, from data collection and mindful consideration of ethical issues to data-informed decision making and insight generation. It aims to impart best practices in orchestrating these multifaceted processes efficiently and effectively.
- **Analytics applications across functional areas:** This pillar delves into the multifaceted applications of analytics across various operational domains. It equips students with the ability to apply analytical concepts and tools contextually to solve problems and drive efficiency in diverse business functions such as finance, marketing, operations and supply chain, and human resources. Through this, students gain a comprehensive understanding of how data-driven insights can propel strategic decision making in any functional area of an organization.

- **Experiential Learning:** This pillar is specifically crafted to immerse students in real-world experiences within one of Canada's vibrant tech and digital economies. The cornerstone of this hands-on approach is a comprehensive capstone management analytics project, which spans both the spring and summer semesters for all students. This intensive project serves as the central experiential component, providing an invaluable opportunity for practical application of theoretical concepts in real-world contexts. Additionally, students in the 16-month program enjoy the unique benefit of a three-month internship, further enhancing their experiential learning journey. This structure not only deepens their understanding but also facilitates valuable networking and interaction with seasoned professionals from top analytics organizations, contributing to a holistic and enriching learning experience.

While students will be exposed to each pillar during all program terms, the emphasis will change in the subsequent terms. In the Fall term, students take business analytics fundamentals courses: Machine Learning for Business I (structured data); Database fundamentals for Business Analysts; Data Visualization and Business Communications; and Statistics Analytics and Causal Inference. Courses in the Winter term emphasize analytics process and management: Machine Learning for Business II (unstructured data), Business Applications of Artificial Intelligence, Prescriptive Analytics, and Responsible AI & Ethical Issues in Data Analytics. In the Spring and Summer terms, students take functional area elective courses: Accounting Analytics, Operations and Supply Chain Analytics, Financial Analytics, Marketing Analytics, and Healthcare Analytics. An experiential education field project performed in groups of 3-4 will be completed over the Spring and Summer semesters.

**Required courses:**

MMA 600 - Bootcamp coding (Python, R) (No credit)  
MMA 601 - One week course on Business Foundations and Strategic Decision Making  
MMA 602 - Data Visualization and Business Communications (Tableau, Power BI)  
MMA 603 - Machine Learning for Business I (Python)  
MMA 604 - Database Fundamentals for Business Analysts (SQL)  
MMA 605 - Statistics Analytics and Causal Inference (R)  
MMA 606 -Machine Learning for Business II (Python)  
MMA 607 - Prescriptive Analytics (Python)  
MMA 608 - Business Applications of Artificial Intelligence  
MMA 609 - Responsible AI & Ethical Issues in Data Analytics  
MMA 610 - Analytics Capstone Project

**Elective courses:**

MMA 611 - Accounting Analytics  
MMA 612 - Financial Analytics  
MMA 613 - Operations and Supply Chain Analytics  
MMA 614 - Marketing Analytics  
MMA 615 - Healthcare Analytics  
MMA 616 - Strategy Analytics

The program follows a 1-year course-based master's structure, offering coursework in each term. The courses are strategically arranged to complement and build upon one another, facilitating the achievement of the program's objectives. This structured approach ensures that students have well-defined progression requirements to meet and aligns with the expectations associated with earning a degree.

Table 2: GRADUATE PROGRAM STRUCTURE - One year

| Starting Mid-August (Orientation) | Fall Term | Winter Term | Spring Term<br>(select 1 elective course) | Summer Term<br>(select 1 elective course) |
|-----------------------------------|-----------|-------------|---|---|
| MMA 600                           | MMA 602   | MMA 606     | MMA 610                                   | MMA 610                                   |
| MMA 601                           | MMA 603   | MMA 607     | MMA 611 (elective)                        | MMA 611 (elective)                        |
|                                   | MMA 604   | MMA 608     | MMA 612 (elective)                        | MMA 612 (elective)                        |
|                                   | MMA 605   | MMA 609     | MMA 613 (elective)                        | MMA 613 (elective)                        |
|                                   |           |             | MMA 614 (elective)                        | MMA 614 (elective)                        |
|                                   |           |             | MMA 615 (elective)                        | MMA 615 (elective)                        |
|                                   |           |             | MMA 616 (elective)                        | MMA 616 (elective)                        |

Table 3: GRADUATE PROGRAM STRUCTURE - 16 Months

| August  | Fall Term | Winter Term | Spring Term<br>(select 1 elective course) | Summer Term<br>(select 1 elective course) | Fall - Year 2 |
|---------|-----------|-------------|---|---|---------------|
| MMA 600 | MMA 602   | MMA 606     | MMA 610                                   | MMA 610                                   | Internship    |
| MMA 601 | MMA 603   | MMA 607     | MMA 611 (elective)                        | MMA 611 (elective)                        |               |
|         | MMA 604   | MMA 608     | MMA 612 (elective)                        | MMA 612 (elective)                        |               |
|         | MMA 605   | MMA 609     | MMA 613 (elective)                        | MMA 613 (elective)                        |               |
|         |           |             | MMA 614 (elective)                        | MMA 614 (elective)                        |               |
|         |           |             | MMA 615 (elective)                        | MMA 615 (elective)                        |               |
|         |           |             | MMA 616 (elective)                        | MMA 616 (elective)                        |               |

iv. Course Descriptions

**MMA 600 - Introductory Boot Camp (0 credits):**

Students will participate in an immersive, 2-week coding bootcamp, designed to equip them with a solid foundation in programming logic and essential concepts. This course will also include introduction to business foundations.

**MMA 601 - Business Foundations and Strategic Decision Making (3 credits):**

This course is divided into two distinct yet interconnected parts, each spanning 18 hours, to equip you with knowledge and skills required in today's dynamic business landscape.

In the first part, we establish a robust foundation in business fundamentals and hone the critical skill of case analysis. This journey begins with an immersive Module 1, where we lay the groundwork for effective case analysis and foster a collaborative cohort environment. Students' interactions with peers during this phase will enhance their networking skills and provide valuable insights. As we delve deeper, Module 2 unfolds, offering a deep dive into qualitative disciplines, particularly focusing on business strategy. You'll explore key concepts such as SWOT analysis, Porter's five forces, and market analysis, equipping you with tools to navigate complex business challenges. Transitioning seamlessly, Module 3 introduces you to quantitative insights, a vital component of business acumen. Here, we delve into financial statements, unravel profit/loss dynamics, and delve into the intricacies of the time value of money. These quantitative skills are invaluable in real-world business scenarios. Finally, in Module 4, we bring everything together, emphasizing the integration and practical application of business concepts. You'll synthesize the knowledge gained throughout the course, applying it to real-world scenarios, and honing your ability to make data-informed decisions. This holistic approach ensures that you not only grasp business fundamentals but also learn how to apply them effectively, setting you on a path to excel as a future business leader.

The second part of the course delves deep into the dynamic world of data-driven strategy, examining how leaders can harness the power of data analytics to inform and enhance strategic decision-making within organizations. Students will cultivate invaluable skills in utilizing data to frame decisions effectively. They'll learn to ask critical questions about data, scrutinize the methods employed for data collection and organization, and harness data to drive improved organizational outcomes. Structured around two parallel modules—an immersive decision-making module and a comprehensive data analysis module—students will engage in interactive lectures, analyze real-world case studies, and tackle hands-on projects. Through these activities, students will master the art of utilizing data to formulate impactful strategies, facilitate organizational change, and create substantial value.

**MMA 602 - Machine Learning For Business I (3 credits)**

Machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. The objective of Machine Learning for Business is to apply machine learning tools to turn raw data into actionable information to guide business decisions. This course requires a keen understanding of both technical methods for dealing with data and business objectives. The plan is to survey different machine learning techniques (e.g., supervised and unsupervised learning) and their applications in real business. The student will learn tools used by analytics professionals and apply these tools to business datasets from

a range of functional areas. While the student will come away with technical skills, the key objective of this course is to understand how machine learning techniques methods can lead to better solutions to unstructured business problems. With this in mind, all methods will be discussed and implemented to case and project that incorporate data from real business problems faced by managers today. This course will build upon basic concepts from Statistics, Probability, Regression, Optimization, Forecasting, and introduce new methods from machine learning and data science.

**MMA 603 - Data Visualization and Business Communications (3 credits)**

In the era of data-driven decision making, the ability to present complex data and analytics in a visual and interpretable manner is vital. This course provides students with the skills necessary to transform raw data into insightful visualizations and effectively communicate data-driven findings in a business setting. The course begins with an overview of the importance of effective data visualization and its role in decision-making processes. It introduces the principles of good visual design and data storytelling, along with exploring a variety of visualization techniques and tools. Students will learn to create and interpret different types of visualizations such as charts, graphs, and interactive dashboards using data visualization tools such as Tableau and Excel. The course emphasizes not just the creation of visually appealing representations but also the importance of choosing the right visualizations that accurately represent the underlying data and answer business questions. The second part of the course focuses on business communication skills. It emphasizes the importance of translating complex analytical results into clear, concise, and actionable business insights. Students will learn to communicate their findings effectively to both technical and non-technical audiences through written reports, presentations, and data storytelling. The course also includes a series of assignments and projects that require students to apply what they have learned in real-world scenarios. These provide opportunities for students to practice creating visualizations, interpreting results, and presenting insights. By the end of this course, students will not only be proficient in using data visualization tools but also in delivering compelling business presentations that effectively communicate the insights derived from their analyses.

**MMA 604 - Database Fundamentals for Business Analytics (3 credits)**

This course provides students with an understanding of the critical role of databases in business analytics, focusing on the principles of database systems, design, implementation, and utilization in a business context. At the beginning of the course, students are introduced to fundamental concepts of data and information management. Topics include data models, database design, normalization, transaction management, and data integrity. We explore various types of databases such as relational, NoSQL, and distributed databases and understand their usage in different scenarios. The course then delves into the practical skills of working with Structured Query Language (SQL) for data extraction, transformation, and loading processes. Students learn to write SQL queries to manipulate and retrieve data from databases effectively. Students are then introduced to data warehousing concepts and architecture, including the differences between operational databases and data warehouses, data marts, and the role of Extract, Transform, Load (ETL) processes. Towards the end of the course, the focus shifts to big data and advanced database technologies, such as Hadoop and other NoSQL database systems, which are being widely used to handle unstructured data and real-time analytics. By the end of this course, students will be capable of designing a database from scratch, proficient in using SQL for data manipulation and analysis, and have a firm understanding of how databases are utilized in the business world for decision-making and analytics.

**MMA 605 - Statistics Analytics and Causal Inference (3 credits)**



This course provides students with a robust foundation in statistical principles and techniques, alongside essential skills in descriptive analytics and causal inference. It serves as a solid foundation for individuals interested in data analysis, decision-making, and extracting meaningful insight from numerical data. Throughout this course, students will develop strong analytical skills and gain hands-on experience with statistical software. They will learn how to apply these tools to real-world scenarios, establishing a solid foundation in statistical analysis and data-driven decision-making, essential for modern business environments.

Students will master descriptive analytics by acquiring the ability to summarize, visualize, and interpret data effectively using a range of techniques, from summary statistics to advanced data visualizations. They will build a solid understanding of core statistical concepts, including probability, distributions, and hypothesis testing, paving the way for more advanced analytics. They will explore time series data analysis, discovering how to uncover trends, patterns, and predict future data points. They will dive into the realm of multivariate analysis, examining relationships between variables, reducing dimensionality, and employing regression techniques for predictive modeling.

Additionally, they will master the art of experimental design, delve into ANOVA for comparing means, and explore advanced factorial experiments. They will study A/B testing methodologies for refining business strategies and making data-driven decisions. Lastly, within the realm of causal inference, they can delve into understanding the fundamental principles of causality and the complexities involved in inferring causation from observational data. Additionally, they can explore various methodologies that are essential for establishing causal relationships, including Propensity Score Matching, Instrumental Variables, and Difference In-Differences (DiD).

### **MMA 606 - Machine Learning for Business II (3 credits)**

This advanced course builds upon the foundational knowledge students acquired in “Machine Learning for Business I”, diving deeper into the specialized applications of machine learning techniques to unstructured data. By exploring areas such as text analytics, network analytics, recommender systems, and deep learning applications, students will gain a robust understanding of how to handle and analyze unstructured data such as text and images, which constitute a significant proportion of the data businesses encounter. The first part of the course is dedicated to text and network analytics, giving students practical experience with tools and techniques for processing and analyzing textual data and networks. Students will learn to apply machine learning algorithms to these forms of data, unlocking valuable insights that can guide strategic business decisions. Additionally, the course delves into the area of recommender systems, exploring how businesses can use these systems to personalize customer experiences and drive engagement. Students will have the opportunity to work with real-world datasets and build their own recommender systems. In the later stages of the course, students are introduced to deep learning applications for unstructured data, specifically focusing on natural language and image processing. Here, students will learn how these advanced techniques can be used for tasks such as automated customer service, sentiment analysis, and image recognition. Moreover, the course provides an introduction to reinforcement learning, a subfield of machine learning that allows machines and software agents to automatically determine the ideal behavior within a specific context. Through case studies and practical examples, students will learn about applications of reinforcement learning to business operations, such as pricing and revenue management. By the end of the course, students will be equipped with the skills to apply sophisticated machine learning techniques to a variety of business data and derive actionable insights from complex, unstructured data sets. This course will empower students to leverage advanced machine learning techniques to drive business outcomes and shape strategic decisions.

**MMA 607 - Prescriptive Analytics (3 credits)**

Business analytics has three main components of descriptive, predictive, and prescriptive. While the first two answer questions on what has happened in the past and what might happen in the future, prescriptive analytics goes beyond explanations and predictions to recommend the best course of action to meet organizational goals. It involves the use of technology to help businesses make better decisions through the analysis of raw data. Prescriptive analytics specifically factors information about possible situations or scenarios, available resources, past performance, and current performance and suggests a course of action or strategy. This course is designed to provide a foundation of prescriptive analytics based on mathematical modeling and optimization for managerial decision-making. Topics covered in the course include decision analysis; simulation modeling; constraint programming and constraint-based optimization; network optimization and graph algorithms; optimization under uncertainty; application of prescriptive analytics techniques in various industries (e.g., supply chain, healthcare, finance); integration of predictive and prescriptive analytics; and practical implementation of prescriptive analytics techniques to solve real-world problems. By the end of the course, students will have a solid understanding of prescriptive analytics techniques and their practical applications. They will be able to formulate decision problems, apply optimization and simulation methods, and provide actionable recommendations to improve decision-making processes in various domains. Additionally, students will develop critical thinking skills and ethical awareness related to the use of prescriptive analytics in business contexts.

**MMA 608 - Business Applications of Artificial Intelligence (3 credits)**

This comprehensive course, co-taught by a panel of expert instructors, aims to provide students with an in-depth understanding of how artificial intelligence (AI) technologies are applied in real-world business settings. It introduces students to a range of AI applications across different industries and functional areas, highlighting the transformative potential of AI in driving innovation, improving operational efficiency, and creating competitive advantages. One key component of the course is an exploration of AI applications in areas such as finance, marketing, and supply chain management. Students will engage with real-life cases that illustrate how organizations have successfully leveraged AI to solve complex business problems, generate actionable insights, and make data-driven decisions. These topics will include AI-powered predictive analytics, natural language processing for customer service, robotic process automation for operations, machine learning for customer segmentation, and AI-driven decision-making systems, among others. A significant part of the course involves readings from both scientific and esteemed business literature, such as the Harvard Business Review and MIT Sloan Management Review. These readings will give students an insight into the most recent advancements in AI technologies, their business applications, and the current dialogue surrounding them in the industry. In the final segment of the course, students will work in groups to author a whitepaper exploring an application of an emerging AI technology to a business problem. Students will evaluate whether to adopt the technology from the perspective of the firm. This hands-on project will not only give students an opportunity to apply their theoretical knowledge to a practical problem, but will also equip them with the skills needed to communicate their findings and recommendations to a professional audience. Importantly, this course provides a solid foundation for further exploration in the field of AI and paves the way for the choice of elective courses that students will undertake during the spring and summer semesters. By the end of the course, students will be prepared to assess the potential of AI applications in different business contexts and contribute meaningfully to AI implementation efforts across a variety of business domains.

**MMA 609 - Responsible AI & Ethical Issues in Data Analytics (3 credits)**

In this course, students will explore the ethical and legal dimensions of artificial intelligence (AI) and data analytics, two rapidly advancing fields that are raising new ethical and regulatory questions. Topics covered will include data privacy, algorithmic fairness, interpretability, and accountability. Students will learn how to responsibly and ethically use AI and data analytics tools. They will examine issues such as biased algorithms and data, invasion of privacy, decision-making transparency, and the consequences of deploying AI systems without adequate safeguards. The course also delves into the concept of "Responsible AI", teaching students how to design, build, and use AI systems in a way that respects human rights and shared ethical values. Additionally, the course will cover ethical considerations in data collection, storage, and analysis. With a mix of theoretical discussion, case study analysis, and practical exercises, students will gain an understanding of how to apply ethical principles in real-world data analytics projects. They will also learn to anticipate and mitigate potential ethical problems that can arise in their future work.

To address the considerations of "indigenous" in the context of responsible AI and analytics, the course will incorporate relevant topics and discussions that emphasize cultural sensitivity and respect for indigenous communities. Students will explore the following areas:

- *Indigenous Data Sovereignty*: Understanding the principles of data ownership, control, and governance within indigenous communities, and the significance of respecting indigenous data sovereignty in AI and data analytics projects.
- *Ethical Data Collection from Indigenous Communities*: Examining the unique ethical challenges related to gathering data from indigenous populations, including informed consent, protection of cultural knowledge, and avoiding potential harm or exploitation.
- *Algorithmic Bias and Indigenous Communities*: Analyzing how bias in AI algorithms can disproportionately impact indigenous communities, and strategies to identify and address such biases to ensure fairness and equity.
- *Indigenous Knowledge Systems and Interpretability*: Recognizing the importance of interpreting AI outcomes in a way that aligns with indigenous knowledge systems and worldviews, fostering cultural relevance and understanding.
- *Responsible AI in Indigenous Contexts*: Exploring case studies and examples of AI and data analytics projects that have successfully incorporated responsible practices while working with or for indigenous communities.
- *Cultural Sensitivity and Collaboration*: Emphasizing the significance of respectful and collaborative partnerships with indigenous stakeholders when designing and implementing AI solutions that may affect their communities.

Through these additional topics, the course aims to equip students with the knowledge and understanding of how to engage with indigenous people responsibly in AI and data analytics, ensuring that their future work respects human rights, shared ethical values, and cultural diversity. The course will encourage students to critically assess the impact of AI technologies on indigenous populations and devise ethical solutions that promote inclusivity, fairness, and positive outcomes for all stakeholders involved.

**MMA 610 - Analytics Capstone Project (6 credits)**

This course is the MMA program's pinnacle, spanning two semesters, providing students with a comprehensive, real-world analytics experience.

During the Spring semester, students will lay the groundwork for their capstone project. This phase focuses on formulating and proposing a business analytics strategy to address unstructured business challenges. Students will work closely with faculty advisors and industry experts to define their project's scope, objectives, and methodologies. Students must understand the intricate managerial issues within their chosen organization and prepare a well-structured proposal for their analytics project. This phase equips students with the strategic thinking and planning skills necessary for impactful analytics solutions.

In the Summer, the course focuses on the practical implementation and delivery of a business analytics project. Students actively gather the requisite data, craft the framework for their analytical solutions, design the step-by-step implementation process, and proficiently present their findings. This hands-on phase allows students to translate their proposals into actionable insights. Throughout the journey, students work closely with experienced faculty advisors, industry experts, and peers, ensuring that their projects align with the highest standards of academic rigor and industry best practices.

The "Analytics Capstone Project" culminates in a profound showcase of students' analytical prowess and their ability to navigate complex business landscapes with data-driven decision making. By successfully completing this capstone, students emerge as accomplished analytics professionals, well-prepared to make meaningful contributions to various industries and organizations.

#### **List of electives:**

##### **MMA 611 - Accounting Analytics**

This course equips students with the multifaceted skills required to excel in the modern accounting profession. This course offers a unique blend of advanced data analytics techniques and cutting-edge technology insights, making it an indispensable component of the Master of Management Analytics program. The course is divided into two interconnected parts, each designed to provide students with a distinct yet harmonious skill set: Data Analytics and Technology Integration in Accounting. This first part is dedicated to hands-on learning, where students will harness data analytics tools, including OLS, logistic and probit regressions, simulations, and optimization analysis, to tackle a wide spectrum of accounting dilemmas. These challenges span all of accounting's functional areas, encompassing financial and managerial accounting, auditing, and taxation.

Students will confront complex problems and become proficient in using data to detect earnings management, assess financial performance, estimate cost functions, perform budgeting simulations, optimize production, and uncover crucial insights by identifying patterns, outliers, and anomalies. This knowledge equips students to make informed decisions in areas such as audit risk assessment, audit procedures, and strategic tax planning and compliance. As the accounting profession evolves in response to technological advances, the second part ensures students are at the forefront of this transformation. This segment focuses on the strategic alignment of technology with organizational goals, emphasizing technology-driven projects that drive business innovation. Students will gain valuable insights into integrating business analytics through comprehensive business analysis. Topics include data, information, and knowledge management, exposure to data modeling and relational database technologies, the significance of data quality, formal and ad-hoc reporting, and the art of data

visualization. The course culminates with exploring information security, privacy considerations, and the ethical implications of emerging technologies, such as automation, artificial intelligence, and the social web, on individuals, communities, and organizations.

### **MMA 612 - Financial Analytics**

This course will equip you to translate core Financial skills with data science into the world of decision-making in Enterprise. The course is divided in four sections:

- Core Financial skills for modeling real life projects. This includes interest rate discounting for project valuation, modeling uncertainty, and co-movement of uncertainty risk factors.
- Real Optionality under uncertainty. This part of the course aims to answer how management decisions and sources of uncertainty change the valuation framework. The course will then dig deep into NPV@Risk.
- Decision Quality: The objective of this part is to investigate the following questions:
  - What is DQ?
  - How is it relevant to business decision-making?
  - What are biases and how do we define risk in Enterprise? It's not necessarily our standard Finance definition of it!
  - How do we implement it?
- Interactive DS apps. This part will be devoted to Implementing a DQ process that necessitates interactivity. Students will learn how to deploy the above as an interactive app on the modeling to engage senior management.

This course will use exclusively R programming.

### **MMA 613 - Operations and Supply Chain Analytics**

This course equips students with the essential skills to conquer complex challenges at the core of modern business logistics. By harnessing cutting-edge analytics techniques, including regression, optimization, and simulation, students become adept at modeling and dissecting intricate problems in inventory management, site selection, revenue optimization, and transportation logistics. In particular, they delve into inventory management, discovering the delicate balance between supply and demand while minimizing costs through data driven precision. Students will utilize real-world data to pinpoint optimal facility locations, ensuring efficient operations and market responsiveness. They learn revenue maximization, leveraging data analytics to craft effective pricing strategies and yield management. Finally, they master the optimization of routes, the minimization of delivery times, and the streamlining of logistics operations, all guided by the illuminating power of data.

With access to extensive, real-world supply chain datasets, students gain invaluable hands-on experience, transforming data into actionable insights. In a world where supply chain resilience is paramount, this course empowers you to be at the forefront of innovation and efficiency.

### **MMA 614 - Marketing Analytics**

A key role of marketing is to understand consumers and the market landscape to generate actionable insights. This course will give students important tools for this task. Students will learn how to design an analytical plan to address important marketing problems, from collecting data to communicating the findings. This includes understanding the variables that need to be measured and how to measure

them, knowing when to apply one analytical method or another depending on the data and the marketing problem at hand, interpreting the output of several data analysis techniques, and telling the story of the findings. With this background, students can begin working towards a marketing analytics position in a company, marketing research firm, consulting firm, or in the public sector. The beginning of the course will employ lectures and readings. However, the course will quickly shift to a more hands-on approach, when students will design projects and analyze data in class. Upon successful completion of this course, students are expected to demonstrate an understanding of and the capacity to apply their knowledge in the following areas: marketing research plan; experimental design (e.g., A/B testing); data collection; analytical method selection; different applications of regression analysis in marketing; analytical methods for segmentation and targeting; general use of machine learning in marketing; results interpretation; and results communication (story telling).

### **MMA 615 - Healthcare Analytics**

In a data-driven era where innovation, efficiency, and improved patient outcomes hinge on analytics, this course serves as your gateway to the healthcare domain. Students in this course learn to dive deep into the strategic insights that unveil how data analytics is reshaping healthcare strategy, influencing decision-making, and elevating the quality of patient care. They develop hands-on proficiency in extracting and handling healthcare data from diverse sources, including electronic health records, wearable devices, and medical imaging, while mastering essential data preprocessing techniques. Immerse themselves in advanced analytics tailored for healthcare applications, exploring predictive modeling, machine learning, and statistical approaches used for patient outcome prediction and medical diagnostics enhancement. They discover how analytics optimizes healthcare operations, from streamlining patient flows and resource allocation to fine-tuning inventory management and healthcare capacity planning. Navigating the intricate ethical landscape of healthcare analytics, students gain a comprehensive understanding of the legal and ethical considerations tied to sensitive patient data, ensuring steadfast compliance with healthcare regulations. Cultivating the art of data-driven decision-making in healthcare, students empower themselves to make impactful contributions in data-rich healthcare environments where every decision holds significance. Applying their newly acquired knowledge and skills to real-world healthcare scenarios through practical case studies, hands-on projects, and insights from guest lectures by esteemed industry experts. By fostering interdisciplinary expertise and collaborating seamlessly with peers from diverse backgrounds, students embrace a holistic approach to solving intricate healthcare challenges.

### **MMA 616 - Strategy Analytics**

Designed to empower future data-driven managers, this course equips students with the knowledge and skills needed to navigate the complex terrain where data science and business analytics converge. It offers a unique vantage point for students, offering a bird's-eye view of how various data science and business analytics functions can seamlessly harmonize to craft a powerful and effective strategy. Simultaneously, it exposes the potential pitfalls, illustrating the consequences of poorly integrated elements that can lead to misguided and ineffective strategies.

Throughout the course, students will delve into essential components, from understanding the significance of strategic vision and data-driven decision frameworks to exploring the pivotal role of competitive intelligence and risk assessment in shaping strategy. We explore the world of performance metrics, uncovering how data-driven key performance indicators drive continuous improvement and guide strategic choices. Real-world case studies of organizations successfully leveraging data and analytics in their strategic decision-making provide tangible insights and best practices, grounding theory in practical application. Additionally, we examine the ethical considerations inherent in

data-driven strategy, emphasizing responsible data use, transparency, and data privacy—a critical aspect for modern analytics professionals.

By the end of this course, students will not only possess a profound understanding of the symbiotic relationship between data science and business analytics but also the ability to formulate data-driven strategies that seamlessly align with organizational objectives.

## **V. General learning outcomes**

The Alberta School of Business has general learning outcomes for the undergraduate and master's-level programs. These learning outcomes are adapted for each specific program. There are five learning outcomes as described below. The learning outcomes will be evaluated primarily by the capstone course.

- **Enhanced Critical Thinking:** Students will cultivate the capacity to examine, integrate, and effectively communicate intricate data, enabling them to formulate well-reasoned conclusions and make informed decisions.
- **Improved Communication Proficiency:** Students will refine their communication skills, both in delivering articulate oral presentations and producing well-structured written documents.
- **Elevated Ethical Sensitivity:** Students will foster a heightened sense of ethical awareness and develop strategies to identify and address ethical dilemmas effectively.
- **Effective Team Collaboration:** Students will grasp the principles of teamwork and collaborative methodologies, enabling them to successfully execute group assignments. Moreover, they will acquire the skills and tools necessary to assume roles as effective leaders or team members.

## **VI. Program Learning Outcomes**

The Master of Management Analytics program is designed to equip students with a comprehensive skill set and deep understanding of the field. Our program learning outcomes are as follows:

### **PLO 1: Data Analytics Proficiency:**

Graduates will possess a strong foundation in data analytics concepts, methodologies, and techniques, enabling them to effectively collect, analyze, and interpret data to drive informed decision-making across various business domains.

### **PLO 2: Business Integration:**

Students will learn how data analytics can be seamlessly integrated into different functional business areas, enhancing their ability to apply analytics solutions to real-world problems in areas such as finance, marketing, operations, and more.

### **PLO:3 Research and Quantitative Skills:**

Graduates will be adept at conducting rigorous quantitative research, allowing them to explore complex business challenges, frame relevant questions, and leverage data-driven insights to optimize processes and strategies.

### **PLO 4: Project Management and Execution:**

The program will empower students with the skills to identify, manage, and successfully execute business analytics projects. Graduates will be proficient project managers, capable of overseeing end-to-end project lifecycles.

### **PLO 5: Effective Communication:**

Recognizing the vital role of communication and collaboration in analytics projects, students will develop strong communication skills. They will be able to convey data-driven insights visually, in writing, and through verbal presentations, ensuring effective knowledge sharing within organizations.

**PLO 6: Ethical and Lifelong Learning:**

Graduates will demonstrate ethical awareness by identifying potential risks and limitations in analytics projects, promoting responsible data usage. They will also recognize the dynamic nature of the field, emphasizing the importance of continuous learning and staying updated with evolving analytics trends

These program learning outcomes underscore our commitment to fostering well-rounded analytics professionals who possess not only technical prowess but also the ability to translate data insights into strategic advantages for businesses while upholding ethical standards and adaptability in an ever-evolving landscape.

Course Based or Thesis Based

The MMA is a course-based program and will include a required capstone project and an optional internship.

**VII. Program Location**

- All program courses are designed to be delivered in a traditional, on-campus format, allowing students to actively participate in class discussions and lectures. This approach is crucial to the program's unique structure, which necessitates the utilization of the Business Technology Lab and Analytics/Trading Lab located on the second floor of the business building. Additionally, the AI Center for Decision Analytics<sup>2</sup>, is instrumental for activities such as the 15-day boot camp and various machine learning courses.
- The program exclusively offers a full-time study option, creating an intensive year of academic engagement. It commences in mid-August with a 15-day boot camp that smoothly transitions into the Fall and Winter semesters. During these terms, students attend in-person classes covering both core and elective courses. The program concludes with a 2-term capstone project spanning the Spring and Summer terms.
- The proposed program will normally be delivered within the Business Building on the University of Alberta campus.

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<sup>2</sup> [AI CENTRE FOR DECISION ANALYTICS](#)



#### Appendix 2A: Class Size of Comparator Programs in Canada (Domestic/International)

| Institution (Canada)  | Domestic %   | International %                                      | Class Size   |
|---|--|--|--|
| Schulich School of Business,<br>York University                               | 45%  | 55% <sup>3</sup>                                     | 61 (Class of 2022)   |
| <a href="#">Sauder School of Business,<br/>University of British Columbia</a> | 10%  | 90%  | <a href="#">65 (Class of 2022)</a>   |
| <a href="#">Desautels School of<br/>Management, McGill University</a>         | 29%  | 71%  | 84 (Class of 2023-2024)  |
| <a href="#">Rotman School of<br/>Management- University of<br/>Toronto</a>    | 34%  | 66%  | Not Specified  |
| <a href="#">Ivey Business School,<br/>University of Western Ontario</a>       | 47%  | 53%  | 69 (Class of 2023-2024)  |
| Smith School of Business,<br>Queen's University                               | % Not Specified<br><a href="#">List of Countries</a> | % Not Specified<br><a href="#">List of Countries</a> | 190 (across all learning formats-<br>full time/part time/blended class<br>of 2024) |

#### Appendix 2B: Class Profiles Comparator Programs in USA (Domestic/International)

<sup>3</sup> Brochure mentions the figures for two programs: [Schulich Brochure](#)

| Institution (USA)   | Domestic % | International % | Class Size         |
|---|------------|-----------------|--------------------|
| <a href="#">Sloan School of Management, Massachusetts Institute of Technology</a> | 36%        | 74%             | 78                 |
| <a href="#">McCombs school of business, The University of Texas at Austin</a>     | 42%        | 58%             | 99 (Class of 2022) |
| <a href="#">Anderson School of Management, UCLA</a>                               | 47%        | 53%             | 67                 |
| <a href="#">Ross School of Business, University of Michigan</a>                   | 32%        | 68%             | 50                 |

\*Sources: Respective institutions class profile/prospectus available online.

**Appendix 3: Business Analysts Jobs- Major Canadian Cities**

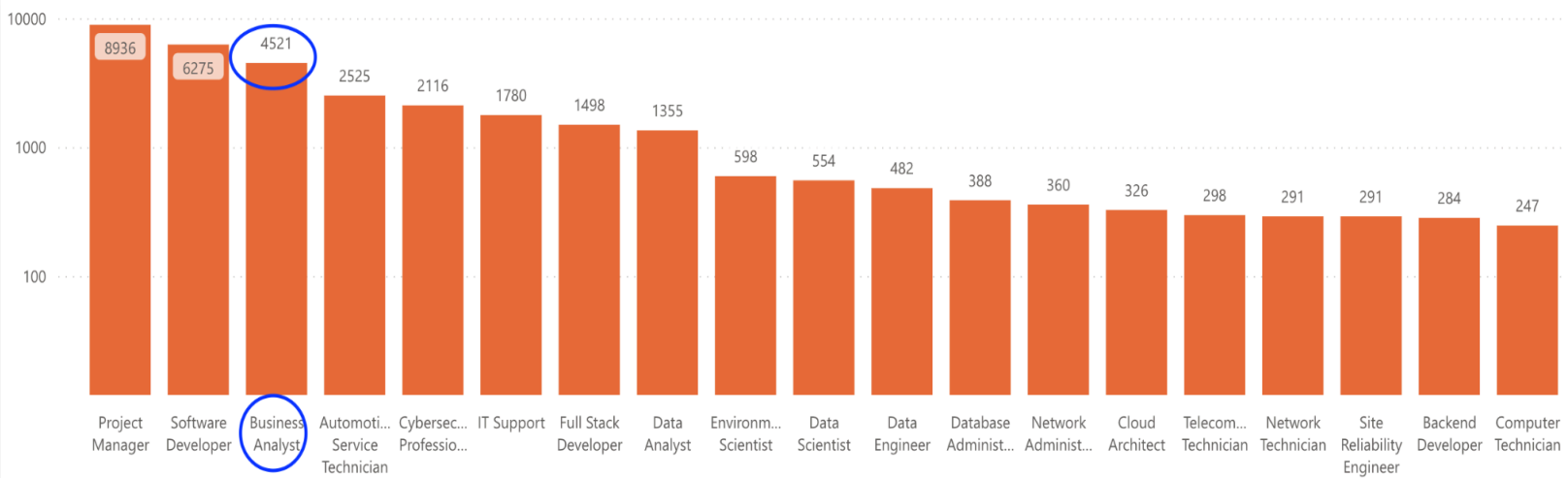
**(A) Edmonton**

**[Employment Data by Location](#)**

Choose a city

|                 |             |            |          |               |           |            |                 |            |             |
|-----------------|-------------|------------|----------|---------------|-----------|------------|-----------------|------------|-------------|
| Calgary         | Fredericton | Iqaluit    | London   | Ottawa        | Regina    | Sherbrooke | Vancouver       | Waterloo   | Yellowknife |
| Charlottetown   | Halifax     | Kelowna    | Moncton  | Prince George | Sarnia    | St. John's | Victoria        | Whitehorse |             |
| <b>Edmonton</b> | Hamilton    | Lethbridge | Montreal | Red Deer      | Saskatoon | Toronto    | Ville de Québec | Winnipeg   |             |

Top 20 Jobs in the selected city



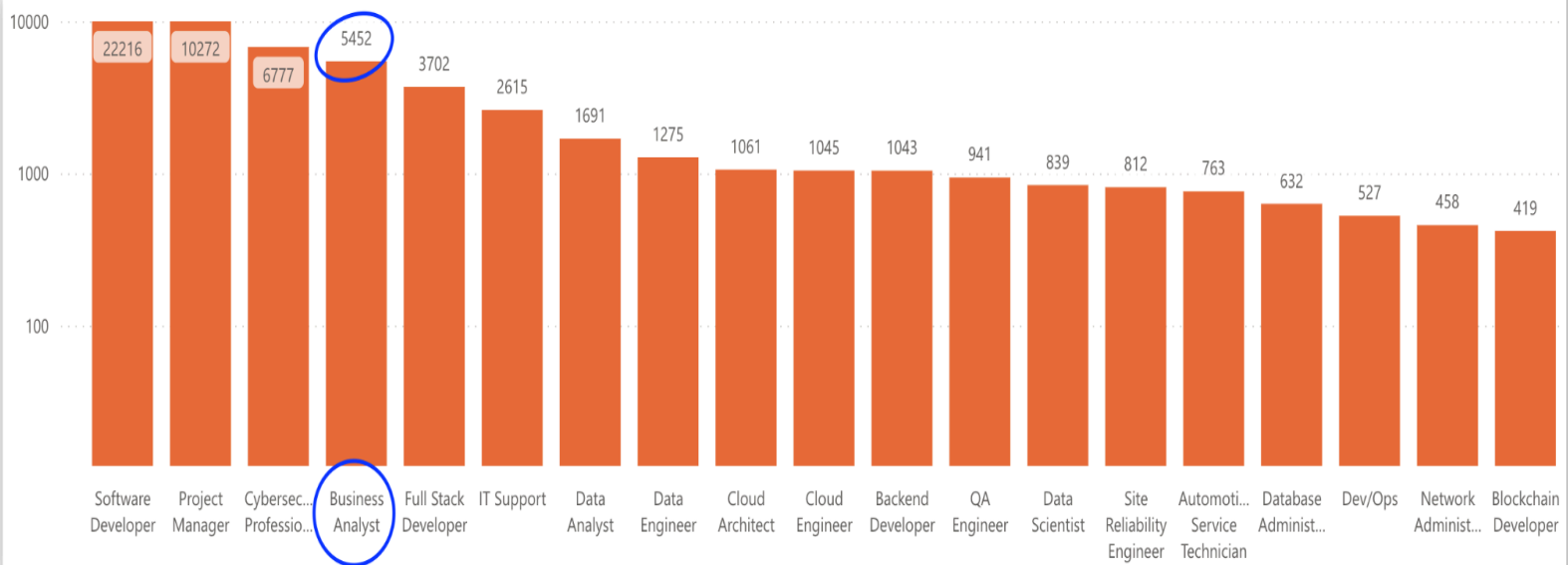
(B) Ottawa

[Employment Data By Location](#)

### Choose a city

|               |             |            |          |               |           |            |                 |            |             |
|---------------|-------------|------------|----------|---------------|-----------|------------|-----------------|------------|-------------|
| Calgary       | Fredericton | Iqaluit    | London   | Ottawa        | Regina    | Sherbrooke | Vancouver       | Waterloo   | Yellowknife |
| Charlottetown | Halifax     | Kelowna    | Moncton  | Prince George | Sarnia    | St. John's | Victoria        | Whitehorse |             |
| Edmonton      | Hamilton    | Lethbridge | Montreal | Red Deer      | Saskatoon | Toronto    | Ville de Québec | Winnipeg   |             |

### Top 20 Jobs in the selected city



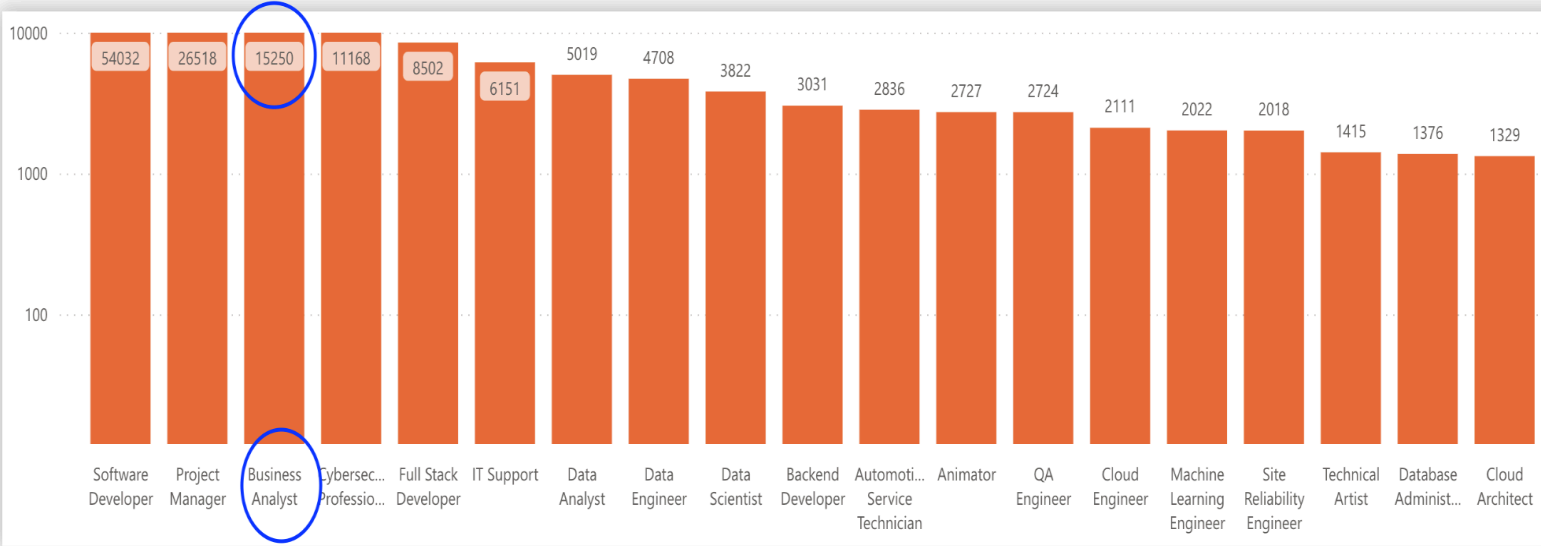
(C) Vancouver

[Employment Data by Location](#)

### Choose a city

|               |             |            |          |               |           |            |                  |            |             |
|---------------|-------------|------------|----------|---------------|-----------|------------|------------------|------------|-------------|
| Calgary       | Fredericton | Iqaluit    | London   | Ottawa        | Regina    | Sherbrooke | <b>Vancouver</b> | Waterloo   | Yellowknife |
| Charlottetown | Halifax     | Kelowna    | Moncton  | Prince George | Sarnia    | St. John's | Victoria         | Whitehorse |             |
| Edmonton      | Hamilton    | Lethbridge | Montreal | Red Deer      | Saskatoon | Toronto    | Ville de Québec  | Winnipeg   |             |

### Top 20 Jobs in the selected city



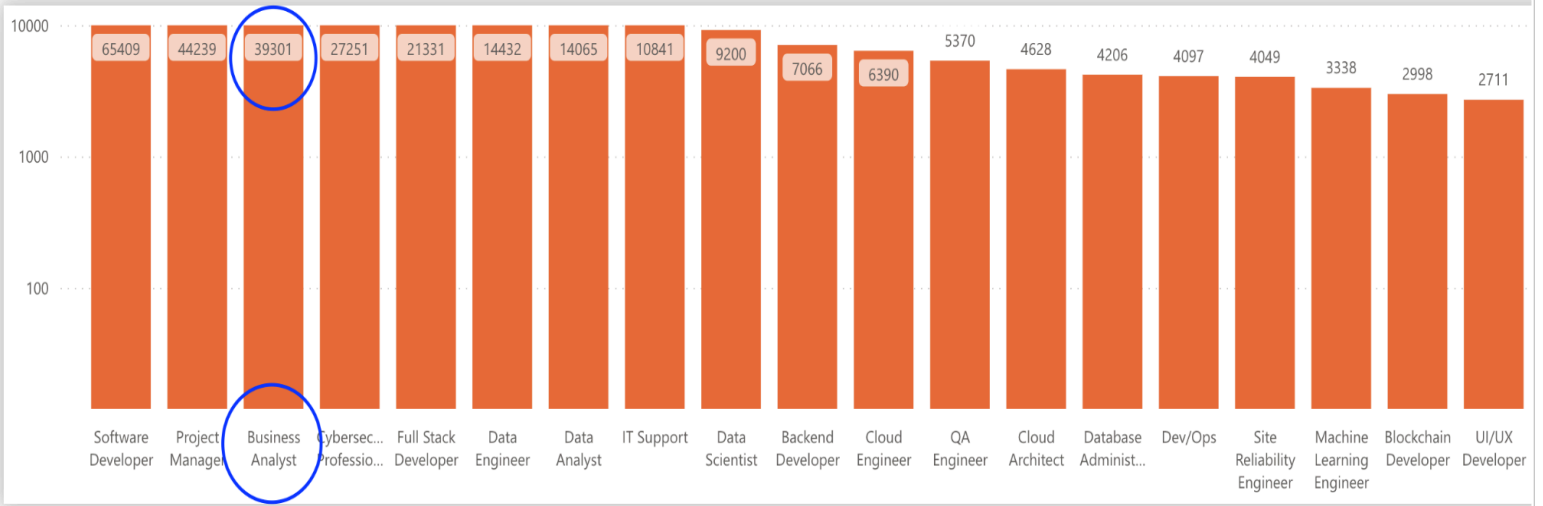
## (D) Toronto

### Employment Data By Location

Choose a city

|               |             |            |          |               |           |            |                 |            |             |
|---------------|-------------|------------|----------|---------------|-----------|------------|-----------------|------------|-------------|
| Calgary       | Fredericton | Iqaluit    | London   | Ottawa        | Regina    | Sherbrooke | Vancouver       | Waterloo   | Yellowknife |
| Charlottetown | Halifax     | Kelowna    | Moncton  | Prince George | Sarnia    | St. John's | Victoria        | Whitehorse |             |
| Edmonton      | Hamilton    | Lethbridge | Montreal | Red Deer      | Saskatoon | Toronto    | Ville de Québec | Winnipeg   |             |

Top 20 Jobs in the selected city



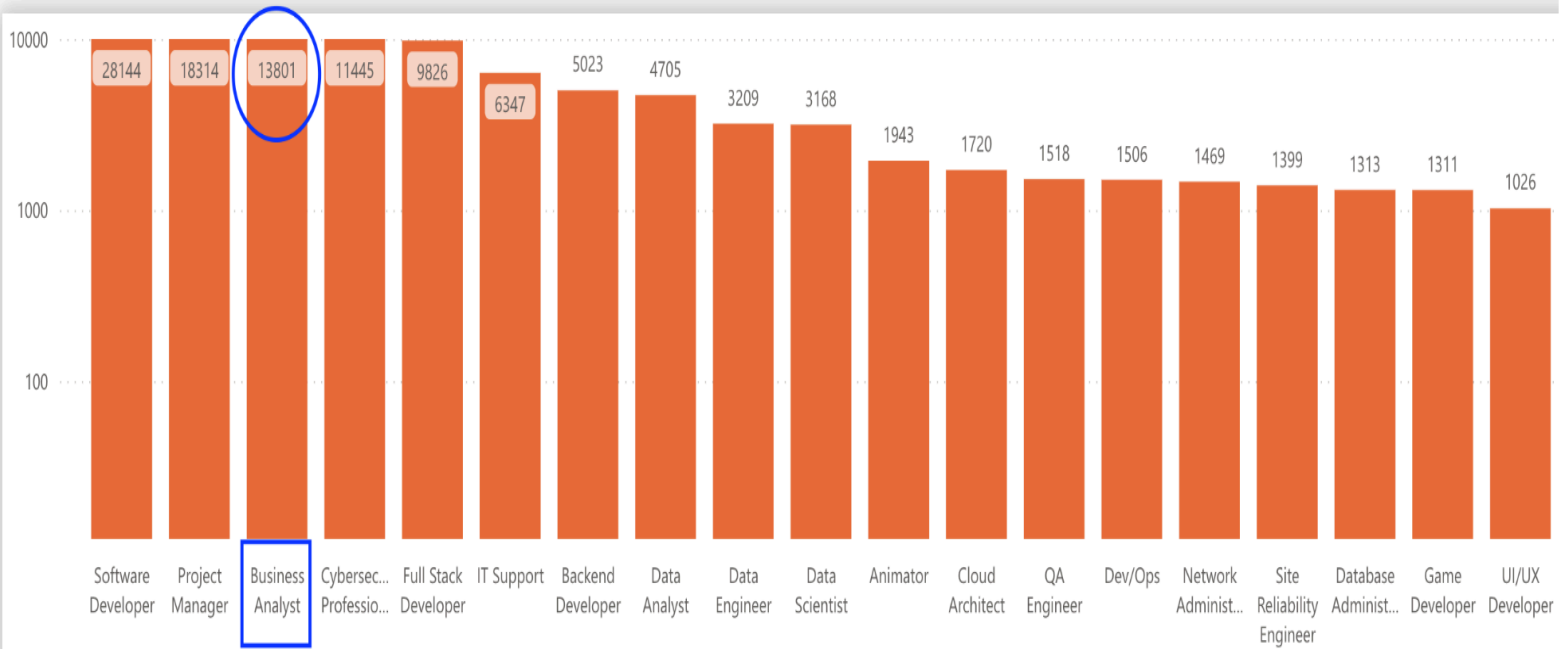
## (E) Montreal

## Employment Data by Location- Montreal

Choose a city

|               |             |            |          |               |           |            |                 |            |             |
|---------------|-------------|------------|----------|---------------|-----------|------------|-----------------|------------|-------------|
| Calgary       | Fredericton | Iqaluit    | London   | Ottawa        | Regina    | Sherbrooke | Vancouver       | Waterloo   | Yellowknife |
| Charlottetown | Halifax     | Kelowna    | Moncton  | Prince George | Sarnia    | St. John's | Victoria        | Whitehorse |             |
| Edmonton      | Hamilton    | Lethbridge | Montreal | Red Deer      | Saskatoon | Toronto    | Ville de Québec | Winnipeg   |             |

Top 20 Jobs in the selected city



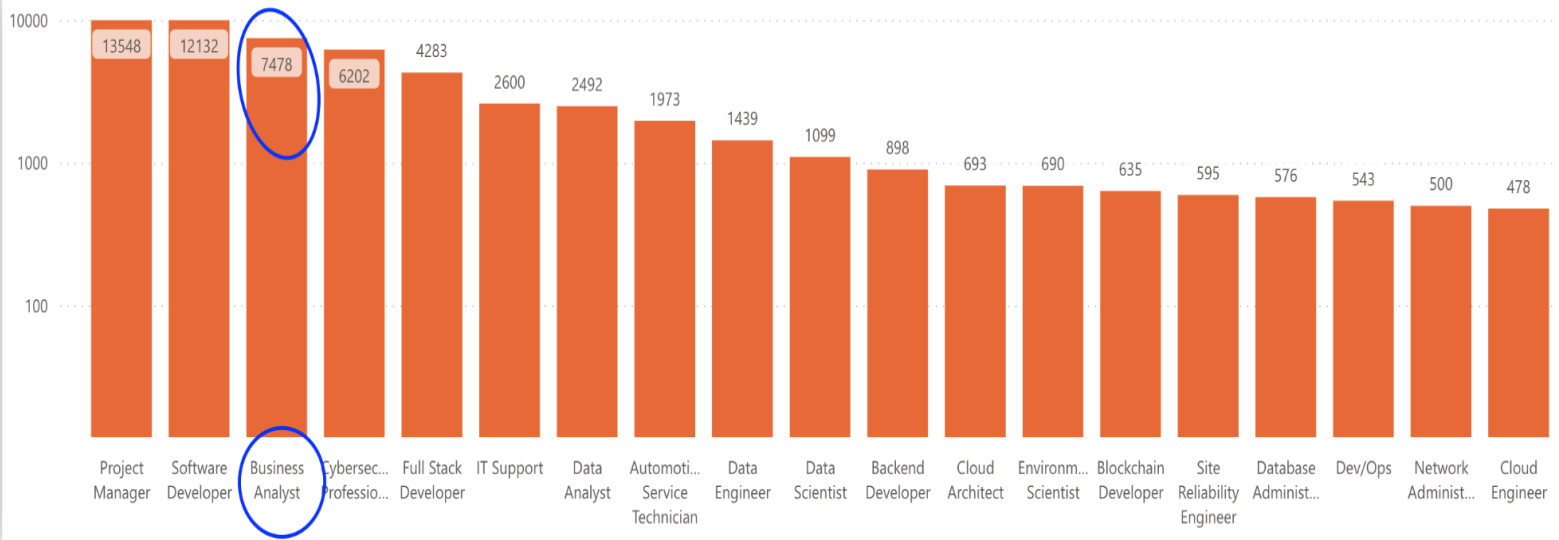
(F)Calgary

Employment Data By Location-Calgary

Choose a city

|               |             |            |          |               |           |            |                 |            |             |
|---------------|-------------|------------|----------|---------------|-----------|------------|-----------------|------------|-------------|
| Calgary       | Fredericton | Iqaluit    | London   | Ottawa        | Regina    | Sherbrooke | Vancouver       | Waterloo   | Yellowknife |
| Charlottetown | Halifax     | Kelowna    | Moncton  | Prince George | Sarnia    | St. John's | Victoria        | Whitehorse |             |
| Edmonton      | Hamilton    | Lethbridge | Montreal | Red Deer      | Saskatoon | Toronto    | Ville de Québec | Winnipeg   |             |

Top 20 Jobs in the selected city



Source: [Employment Data by Location](#)



**Appendix 4A: Industry Consultation Meetings held with Dr. Vikas Mehrotra, Dean, Alberta School of Business**

| Date                             | Name and Title  | Organization  | Outcome/In support  |
|----------------------------------|---|---|---|
| April 28, 2023                   | Bjorn Morisbak<br>Executive Vice President<br>Corporate Development   | Stantec   | Yes   |
| May 2 and August 30, 2023        | Robert Borrelli<br>Office Managing Partner  | KPMG LLP Canada   | Yes   |
| May 17, 2023                     | Evan Siddall<br>Chief Executive Officer   | Alberta Investment<br>Management<br>Corporation (AIMCo) | Yes   |
| May 23 and<br>September 11, 2023 | Jan Kestle<br>President   | Environics Analytics<br>Group Ltd. (Toronto)            | Yes-Agreed to be on the<br>MMA advisory board                     |
| May 23 and<br>September 11, 2023 | Derek Neldner<br>CEO and Group Head   | RBC Capital Markets<br>(Toronto)                        | Yes   |
| May 25, 2023                     | Amit Prakash<br>Chief Fiduciary Officer   | Alberta Investment<br>Management<br>Corporation (AIMCo) | Yes   |
| June 30, 2023                    | Laura Kilcrease<br>CEO  | Alberta Innovates                                       | Yes   |
| July 4 and September<br>14, 2023 | Cam Linke<br>Chief executive officer  | Alberta Machine<br>Intelligence Institute<br>(Amii)     | Yes-Ongoing<br>collaboration on<br>program development            |
| August 2, 2023                   | Ibrahim Gedeon<br>Chief Technology Officer  | TELUS   | Yes- agreed to be on the<br>MMA advisory board                    |
| September 1, 2023                | Kirsten Stead<br>Managing Partner   | DCVC Bio.   | Yes   |
| July 24, 2023                    | Colin Tran<br>Vice President Corporate<br>Affairs   | Trust Science   | Yes   |
| September 13, 2023               | David Crane,<br>Director, Product<br>Development. (Meeting<br>held with Dr. Michael<br>Maier, Associate Dean,<br>Masters Programs | AltaML  | Yes- talk about potential<br>internship and work<br>opportunities |

|                   |            |  |   |
|-------------------|------------|--|---|
| November 16, 2023 | Anil Arora | Chief Statistician,<br>Statistics Canada | In support of the program. Will review in depth details of the program. |
|-------------------|------------|--|---|

**Appendix 4B : Alberta School of Business, Internal Consultations (Conducted by the program development team members either individually and/or collectively)**

| Date                     | Name and Title                       | Department   | Outcome/Comments   |
|--------------------------|--------------------------------------|--|--|
| July 12, 2023            | Paul Messinger, Chair                | Department of Marketing, Business Economics and Law (MBEL) | <p>Paul Messinger is a strong advocate for the introduction of our program at the Alberta School of Business. He firmly believes that such a program would be a valuable asset not only for the school but also for the broader academic community.</p> <p>Paul has been actively engaged in this domain, offering substantial insights based on his extensive experience, including prior involvement in the "Service Science Section" at INFORMS. He has also proposed an exciting idea to explore the possibility of offering analytics certification exams for our MMA program graduates, similar to the Certified Analytics Professional (CAP) certification.</p> <p>In his capacity as the current Chair of the Department of MBEL, Paul has shared his perspective on the program's significance and its potential impact on the academic landscape. Furthermore, he has generously identified colleagues within the Department who can contribute to the development of an elective course on "Marketing Analytics."</p> |
| Jul 13, 2023             | Dr. Vern Glaser, Associate Professor | Department of Strategy, Entrepreneurship and Management    | <p>A course in Decision Making in Organizations (with algorithms) would be critical to have early on in the master's degree. Such a course could help to contextualize the offerings so that students can approach them from the perspective of building value for organizations (and building valuable insights). Amongst the topics that could be taught,</p> <ul style="list-style-type: none"> <li>-understanding the differences and complementarities between data engineering, data science, and ai;</li> <li>how complementary assets (and engaging properly with digitalization) can unlock the value of AI</li> <li>-what does it mean to do data science (getting a champion, building insights that connect with existing KPIs, but also exploring possibilities of new metrics that matter)</li> <li>-case studies of digitalization journeys of organizations</li> <li>-what a data science stack looks like in practice</li> </ul>  |
| July 13 and Aug 14, 2023 | Dr. Armann Ingolfsson, Professor     | Department of Accounting and Business Analytics            | <p>Professor Armann Ingolfsson played a pivotal role in the initial discussions surrounding the development of our new program. Leveraging his expertise in the domain and his extensive knowledge of the faculty at the Alberta School of Business. Professor Ingolfsson introduced a list of faculty members at the Alberta School of Business who have a track</p>  |

|                 |   |   |   |
|-----------------|---|---|---|
|                 |   |   | record of teaching and conducting research related to data analytics. Beyond our consulting sessions at various junctures, we also met on August 14th to explore the intricacies of the core course titled "Data Visualization and Business Communications." In a remarkable display of generosity, he readily agreed to assist us in both developing and instructing this course.  |
| Jul 20, 2023    | Philippe Cote,<br>Full Executive Professor  | Department of Finance                                   | Philippe is very keen on teaching the finance elective course. Has provided a proposed course description. This course will equip students to translate core Financial skills with data science into the world of decision-making in Enterprise   |
| July 21, 2023   | Dr. Yonghua Ji,<br>Professor  | Department of Accounting and Business Analytics         | Strongly believes in the urgency of launching this program, given the remarkable demand it addresses within the industry today.<br><br>Furthermore, recognizing the critical role of database fundamentals and software such as SQL within the program's curriculum, as well as the high demand for these skills in the job market, Yonghua Ji has graciously agreed to take the lead in developing and teaching a course titled "Database Fundamentals for Business Analytics" as part of our MMA program. |
| July 26, 2023   | Dr. Tito Grillo,<br>Assistant Professor   | Department of Marketing, Business Economics and Law     | Tito has shared the course outline of his current "Marketing Analytics" course as he is keen on teaching the course and mentioned that he has attached the syllabus from his Winter undergraduate course. He mentioned that the course primarily emphasizes the application of statistical methods and algorithms for marketing research and marketing processes.   |
| August 14, 2023 | Dr. Tim Hannigan,<br>Professor  | Department of Strategy, Entrepreneurship and Management | "In particular, I think the strategy of analytics course can provide a birds-eye view for managers of how various data science/business analytics functions can coherently form a good strategy (and the counter, of how poorly mixed elements can form bad strategy)." Provided valuable suggestions to consider potentially using Microsoft Visual Studio Code as your IDE up front in your boot camp, Students can use both Python and R, including Jupyter Notebooks, and R Markdown                    |
| August 17, 2023 | Amber Nicholson-Manager, CWIL<br>Paul Taylor-MBA career coaching and education lead<br>Melanie Tymofichuk- Work | Careers and Work integrated learning                    | Supportive of the program, provided valuable insights with regards to MoU's, work integrated learning. The team also asked for assistance from professors/advisory committee to build industry partnerships.  |

|                       |   |  |  |
|-----------------------|---|--|--|
|                       | integrated learning,<br>Programs Lead                                 |  |  |
| August 27-29,<br>2023 | Leadership retreat-<br>Participants included<br>department/unit heads | All Units heads,<br>Alberta School of<br>Business  | Discussion with regards to the future strategy of the school,<br>the MMA program being top-most priority.  |
| August 30, 2023       | Dr. Ivor Cribben,<br>Professor  | Department of<br>Accounting and<br>Business<br>Analytics   | <p>We've been engaged in a dialogue about the significance of statistical learning within the MMA program. Ivor has graciously offered his assistance in crafting the course titled "Statistics Analytics and Causal Inference." In addition to his expertise, he recommended involving Maryam Hasanzadeh, a faculty member in Accounting and Business Analytics, owing to her valuable insights in this domain. Both Ivor and Maryam share the belief that such a course constitutes a vital component of any analytics program.</p> <p>Recognizing that students arrive with diverse backgrounds, Ivor suggested allocating the initial three weeks of the course to provide a comprehensive introduction to statistics. This foundation will ensure that all students are well-equipped to excel in the subsequent content.</p> |
| September 1,<br>2023  | Dr. Tracy Raivio  | Associate Dean<br>Education<br>College of Natural<br>and Applied<br>Sciences and<br>Incoming GPS<br>Dean | Dr. Raivio is supportive of the MMA program, primarily because it is being designed with a business-oriented focus rather than a strong emphasis on coding skills. Dr. Raivio has also expressed a keen interest in participating in the MMA Advisory Committee, which is currently in the process of being established.   |
| September<br>7,2023   | Celine Gareau Brennan,<br>Business Librarian                          | Alberta School of<br>Business  | Library Impact Statement received.   |
| September 13,<br>2023 | Maryam Hasanzadeh<br>Mofrad,<br>Assistant Lecturer                    | Department of<br>Accounting and<br>Business<br>Analytics   | <p>Maryam Hasanzadeh Mofrad stands out as a pivotal advocate for our program, demonstrating a keen awareness of its timely relevance and its capacity to meet substantial demand within the academic realm. Leveraging her substantial expertise in statistical learning, Maryam brings a treasure trove of knowledge and hands-on experience to our program.</p> <p>Her enthusiasm extends to her commitment to develop and teach the core course titled "Statistics Analytics and Causal Inference".</p>   |

|                    |  |   |  |
|--------------------|--|---|--|
| September 13, 2023 | M. Hosein Zare, Assistant Lecturer         | Department of Accounting and Business Analytics   | <p>M. Hosein Zare has shown tremendous enthusiasm and support for our program. He shares the sentiment that the program is both timely and holds substantial potential for high demand, given his extensive experience in teaching numerous analytics-based courses at the Alberta School of Business.</p> <p>M. Hosein Zare has graciously offered his expertise and dedication by expressing a willingness to teach pivotal courses within the program. Specifically, he has shown interest in instructing "Prescriptive Analytics," "Machine Learning 1," and the elective course "Operations and Supply Chain Analytics."</p>  |
| September 18, 2023 | Dr. Tracy Raivio                           | Associate Dean Education<br>College of Natural and Applied Sciences and Incoming GPS Dean | We discussed the program in general, the structure and the courses we intend to have in our program. The University is looking into development of graduate programming in the area of data science and applied AI. We discussed the markets/approaches for the program areas and concluded there is not significant overlap. The proposed MMA program is focused on business/decision making; whereas data science and applied AI is technology focused. In summary, there may be opportunity for collaboration in terms of elective courses.   |
| September 19, 2023 | Dr. Saied Samiedaluie, Associate Professor | Department of Accounting and Business Analytics   | <p>We have discussed the possibility of developing a course on "Healthcare Analytics". Given his expertise and the nature of our program, we both agree that such a course must provide an in-depth exploration of the application of analytics in the healthcare industry including strategic insights, data proficiency, advanced analytics (e.g., predictive modeling, ML, and statistical approaches to predict patient outcomes and enhance medical diagnostics) and operational excellence (e.g., how analytics optimizes healthcare operations, from streamlining patient flows and resource allocation to inventory management and healthcare capacity planning).</p> <p>He is keen to develop and teach such an elective course in the program.</p> |
| September 19, 2023 | Dr. Ilbin Lee, Assistant Professor         | Department of Accounting and Business Analytics   | <p>Following a thorough discussion of the proposed MMA specifics with Ilbin, he expressed his enthusiasm, stating, "It is truly fantastic that this initiative is taking shape. Our School and University stand to benefit significantly from a program like this, given our immense potential to drive its success."</p> <p>Furthermore, Ilbin conveyed his keen interest in actively</p>   |

|                    |  |   |   |
|--------------------|--|---|---|
|                    |  |   | contributing to the program by developing and instructing several core courses. Specifically, he is eager to take on the responsibility for courses such as "Machine Learning for Business 1," "Machine Learning for Business 2," and "Prescriptive Analytics."   |
| September 25, 2023 | Dr. Sarah Moore, Associate Dean, Research and Phd programs   | PhD Programs Office                             | Dr. Moore has expressed her support for the program and has offered valuable recommendations. One of her suggestions is to explore the inclusion of Ph.D. students in specific course enrollments, especially within the bootcamp. Furthermore, Dr. Moore has proposed an alternative approach for research-related capstone projects. Her idea involves professors presenting their analytics research projects as potential options for students to choose as their capstone projects.<br>Regarding the generation of potential capstone projects, she has identified several avenues. These include eHub, the Centre for Cities and Communities, with a specific emphasis on projects related to retail and agricultural research.   |
| September 27, 2023 | Dr. Felipe Aguerrevere, Department Chair and Associate Professor   | Department of Finance                           | Dr. Aguerrevere has suggested potential faculty members who could serve as valuable resources for teaching the financial analytics elective. Notable faculty names put forth for consideration include Philippe Cote, Evstathios Avdis, and Keith Godfrey.<br>Furthermore, there is a recommendation to potentially include the current Fintech (FIN 686) course as an elective, with the condition that it would be available in specific terms only.<br>Dr. Aguerrevere also supports the idea of introducing various elective topics on an annual basis.<br>In summary, Dr. Aguerrevere is enthusiastic about the program and has given consent for Philippe Cote to serve as the primary instructor for now after reworking his availability, as Philippe has expressed a personal interest in teaching the finance elective. |
| Ongoing            | Dr. Leo Wong, Associate Dean, Education  | Office of Education, Alberta School of Business | Ongoing consultation and insights with regards to curriculum development. Overall in support of the program.  |
| September 28, 2023 | Dr. Michael Lounsbury, Professor and A.F. (Chip) Collins Chair; Academic Director of eHUB Entrepreneurship Centre; Chair, Department of Strategy, Entrepreneurship | SEM   | Dr. Lounsbury is happy with our progress on the proposal development and suggested that SEM offers a course in this program. Dr. Rostami would ensure to use the great expertise of some faculty in SEM (e.g., Vern Glaser and Tim Hannigan) in developing some core/elective courses.  |

|                    |   |   |   |
|--------------------|---|---|---|
|                    | and Management (SEM)  |   |   |
| September 28, 2023 | Gil Anderson,<br>Indigenous Programs<br>Coordinator   | Office of<br>Education,<br>Alberta School of<br>Business  | Gave brief ideas about knowledge sharing and ethics with regards to Indigenous teaching and learning. Connected us with the Centre for Teaching and Learning for expert advice.   |
| October 23, 2023   | Carley Roth-<br>Portfolio Initiatives<br>Manager<br><br>Dr. Janice Causgrove<br>Dunn-<br>Vice-Provost (Programs)<br><br>Suzanne French-<br>Portfolio Initiatives<br>Coordinator | Office of the<br>Provost and<br>Vice-President<br>(Academic)  | Provided initial feedback and suggested updating certain sections of the proposal. Will review the document for further comments. Shared governance pathway and ways forward.   |
| October 25, 2023   | Andrea Menard- Lead<br>Educational Developer,<br><br>Lori Ireland- Educational<br>Developer   | Centre for<br>Teaching and<br>Learning, Office<br>of the Vice<br>Provost<br>(Indigenous<br>Programming and<br>Research) | Offered significant insights on the importance of having instructors proficient in Indigenous culture and business methods.<br>Additionally, highlighted the potential for promoting Truth and Reconciliation by ensuring the enrollment of 2-3 Indigenous students in each cohort.<br>During admissions, there could be tailored considerations regarding GPA requirements.<br>Part of the course content might focus on equipping students with the skills to effectively interact with Indigenous communities. |
| November 6, 2023   | Dr. Florence Glanfield,<br>Vice-Provost (Indigenous<br>Programming and<br>Research)   | Office of the<br>Vice-Provost<br>(Indigenous<br>Programming and<br>Research)  | In support of the program, echoed support on the Centre for Teaching and Learning's suggestion to at least 2-3 have Indigenous students representation in the program as well as Indigenous guest instructors for the responsible AI and introduction to business course.   |
| November 21, 2023  | Heather Braid,<br>Manager, Teaching and<br>Learning<br><br>Sara Rashidian,<br>Curriculum Coordinator  | Office of<br>Education,<br>Alberta School of<br>Business  | The initial meeting revolved around discussing and aiding in the formulation of program competency objectives and the establishment of measurement criteria. This will be an ongoing endeavor aimed at creating a program assessment and evaluation framework for reporting to AACSB every five years.  |
| November 23, 2023  | Dr. Carrie Smith  | Vice Provost<br>(Equity, Diversity<br>and Inclusion)  | Dr. Smith is in support of the program. Suggested potential women instructors/post doctoral fellows from other faculties who are adept in analytics/ML/AI domain teaching and   |



|                         |                 |  |  |
|-------------------------|-----------------|--|--|
|                         |                 |  | research.  |
| November 27,<br>2023    | Dr. Ali Shiri   | Vice-Dean, GPS   | Provided suggestions to include via email                |
| December 12,<br>2023    | Yuliia Malanych | Business-<br>Finance Partner   | Support and consultation for preparing program budget    |
| December 19-22,<br>2023 | Edith Finczak   | Director,<br>Academic Budget<br>and Planning,<br>Office of the<br>Provost and VP<br>Academic | Consultation with regards to program budget over emails. |

#### **Appendix 4C:**

#### **Meeting Summary with Dr. Michael Palvin, Associate Professor and MMA Academic Director, Wilfrid Laurier University and Dr. Borzou Rostami, Assistant Professor, Academic Director for MMA, Department of Accounting and Business Analytics, University of Alberta.**

Meeting: July 13, 2023

“During my meeting with Mike Pavlin, the Director of the Master in Management Analytics program at Wilfrid Laurier University, we discussed various aspects of our respective programs comprehensively. My primary objective was to gather insights and feedback from their program, which has been running successfully for 3 years. Mike shared several valuable suggestions that could significantly enhance our program.

One of the key recommendations pertains to the program's duration. Mike suggested transitioning to a 16-month format, which allows international students to benefit from a 3-year post-graduate work permit issued by the Immigration, Refugees, and Citizenship Canada (IRCC).

Furthermore, Mike's insights on course offerings were enlightening. He highlighted the importance of addressing the evolving job market and student feedback. Given that a considerable portion of the student cohort might come from STEM backgrounds, Mike recommended the inclusion of an introductory course on business fundamentals. This course would provide students with a foundational understanding of business concepts, equipping them for success in analytics roles within corporate environments.

Another course suggestion Mike brought forward was centered on causal analysis. In many business contexts, it's crucial not only to predict outcomes but also to understand the underlying causes of events. A dedicated course in causal analysis would empower our students to uncover these critical insights, aligning our program with industry demands.

Lastly, our discussion delved into software proficiency, informed by feedback received from recent graduates over the past three years. Mike emphasized the significance of Python and SQL in the job market, as these skills consistently surfaced as prerequisites in interviews with various companies. Integrating comprehensive training in these tools would ensure our graduates are well-prepared for the demands of the contemporary job market.”

### Appendix 5: Comparative Analysis of Programs

|                       |   |  |  |  |  |  |   |
|-----------------------|---|--|--|--|--|--|---|
| Institution           | University of Alberta School of Business (Applicant Institution)  | York University-Schulich School of Business  | University of British Columbia-Sauder school of business   | University of Western Ontario-Ivey Business School                                   | McGill University-Desautels School of Business   | University of Toronto-Rotman school of management  | Smith School of Business-Queen's University   |
| Name of Credential    | Masters in Management Analytics (Proposed)  | Master in Business Analytics   | Masters in Business Analytics  | Msc in Management-Business Analytics   | Master of Management in Analytics  | Master of Management in Analytics  | Master of Management in Analytics   |
| Enrollment            | Full-time   | Full-time  | Full-time  | Full-Time  | Full-time  | Full time  | Full time   |
| Delivery Format       | On campus   | On-campus  | On-campus  | On campus  | On Campus  | On Campus  | On-campus/blended   |
| Time to complete      | One year without internship; 16 months with internship  | 12 months  | 12 months  | 16 months  | 1 year<br>Also offers 1.5 year option that includes internship   | 11 months  | 12 months   |
| Entrance Requirements | Undergraduate degree<br><br>GMAT/GRE not required<br><br>A minimum of 3.0 GPA<br><br>English proficiency: | 4 year undergraduate degree. Must be 2 years full time study with an accredited institution where English is | Three or four-year Bachelor's degree with a B+ average, or recognized equivalent from an accredited institution, | An undergraduate degree completed within the past four years .<br><br>TOEFL (minimum | GMAT or GRE required, but not required for students graduating from U.S or Canadian universities<br>Undergraduate degree | Appropriate four-year undergraduate degree or equivalent Relevant program such as (but not limited to) Computer Science, | Undergraduate degree from an accredited university in mathematics, business, computer science, economics, engineering or science. |

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|  | <p>TOEFL minimum score 100 (minimum 23 in each dimension); or IELTS score of 7.5; minimum 6.5 in each dimension.</p> | <p>the official language of instruction,</p> <p>Does not require GMAT or GRE</p> <p>A minimum 3.0 GPA and above/B+ grade</p> <p>English proficiency: TOEFL minimum score 100 (minimum 23 in each dimension); or IELTS score of 7.5; minimum 6.5 in each dimension.</p> <p>Work experience recommended, but not required</p> | <p>Due to the rigorous nature of the program, it is strongly recommended that applicants have some exposure to university-level courses in topics like statistics, calculus, and linear algebra (or other courses in mathematics and statistics). Experience in computer programming, data analytics or mathematical modeling is also an asset.</p> <p>550 GMAT with at least a 50th percentile in the quantitative and verbal sections of the test.</p> <p>155 GRE score on both the verbal and quantitative sections.</p> | <p>internet-based score of 100)</p> <p>IELTS General OR Academic (minimum total score of 7).</p> <p>Strong course work in: Calculus, Linear Algebra, Statistics and Computer Science (with programming focus).</p> <p>GMAT/GRE optional</p> | <p>IELTS Test score of 6.5 (or greater) if English is not your first language OR TOEFL (IBT); 86 overall, no less than 20 in each of the four components.</p> | <p>Statistics, Mathematics, Engineering, Physical Science, Economics or Commerce. Minimum B average across courses in the final year.</p> <p>Evidence of proficiency in linear algebra, probability, statistics and calculus. Proficiency can be demonstrated through university level courses completed, with a minimum B grade in courses that cover the relevant topics.</p> <p>Evidence of proficiency in computer programming. Proficiency can be demonstrated through academic history, projects, work experience or</p> | <p>Including at least one mathematics or statistics course that covers hypothesis testing, linear regression, and their applications.</p> <p>GMAT not required but recommended. English language proficiency tests.</p> |
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|  |  |  | <p>Test of English as a Foreign language (TOEFL): 100, IELTS Indicator: 7.0 overall band, There is no minimum work experience requirement for entry into the UBC MBAN.</p> <p>Candidates with a lower academic average may be accepted if they have significant professional experience and/or a high GMAT/GRE score.</p> |  |  | <p>extra-curricular activities.</p> <p>GMAT or GRE encouraged.</p> <p>English language proficiency, Minimum TOEFL score of 100 is required, with a minimum of 22 in both writing and speaking, or a minimum IELTS Academic Test with a score of 7.0 with at least 6.5 across all bands.</p> |  |
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| Areas of Study / curriculum | Introductory boot camp, Machine Learning for Business I (Programming: R), Data Visualization and Business Communications (Tableau), Database Fundamentals for Business Analysts (SQL), Probabilistic Models and Descriptive Analytics, Responsible AI & Ethical Issues in Data Analytics, Machine Learning for Business II (mainly unstructured data including text analytics, network analytics, and image processing-Python), Business Applications of Artificial Intelligence (Python) | Artificial Intelligence Fundamentals, Database Fundamentals, Data Science I, Project Management, Case Analysis and Presentation Skills, Predictive Modelling, Data Science II, Analytics Consulting Project, Models & Applications in Operational Research, Visual Analytics and Modelling Management Accounting, Economic Forecasting and Analysis, Managerial Finance, Applications of Data Science in Finance, Management of Risk in Financial Institutions, Enterprise Risk Management & Strategy, | Career Development, Analyzing and Modeling Uncertainty, Business Analytics Programming, Optimal Decision Making I, Descriptive and Predictive Business Analytics, Data Management for Business Analytics, Data Driven Marketing, Optimal Decision Making II, Decision Analysis Under Uncertainty, Business Immersion, Advanced Predictive Business Analytics, Database Applications in Business Systems, Business Applications of Machine Learning, | Art of Modelling; Business Statistics; Business Essentials; Accounting; Business Communications; Finance; Leadership / Organizational Behavior; Marketing; Operations; Strategy; Big Data Analytics; Simulation and Risk Analysis; Prescriptive Analytics and Optimization; Accounting; Governance & Risk; Causal Inference; Competing in and with China; Data Driven Management; Data Management; Entrepreneurship & Growth; Frontier | Coding Foundations for Analytics, Database and Distributed Systems for Analytics, Data Mining and Visualization, Mathematical and Statistical Foundations for Analytics, Multivariate Statistical Analysis, Decision Analytics, Managing Data Analytics Teams Ethical Leadership and Leading Change Data Analytics in Accounting,, Independent Studies in Analytics 1, Independent Studies in Analytics 2, Financial Valuation Analytics for Startups, Advanced Topics in Finance Analytics 1, Text Analytics, Social | Analytics in Management, Data-Based Management Decisions, Analytics Colloquia, Management Analytics Practicum, Structuring and Visualizing Data for Analytics, Modeling Tools for Predictive Analytics, Machine Learning Analytics, Tools for Probabilistic Models and Prescriptive Analytics, Improving Customer Value with Analytics to Leveraging AI and Deep Learning Tools in Marketing, Analytics for Marketing Strategy, Analytic Insights using Accounting and Financial Data, Optimizing Supply Chain Management and Logistics, Service | Acquisition and management of data, AI Ethic and Policy, Analytics for Financial Market, Big Data Analytics, Intro to Management, Intro to Analytical Modeling, ML and AI, Operations & Supply Chain Analytics, Predictive Modeling, Pricing Analytics, Entrepreneurship & Innovation, Creating High-performance Teams, marketing Analytics, Leading Change |
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|  | <p>, Prescriptive Analytics (Python) , Capstone project</p> | <p>Artificial Intelligence in Business I, Artificial Intelligence in Business II, Marketing Management Research , Consumer Behaviour , Business Marketing , Service Marketing , Marketing Metrics , Advanced Spreadsheet Modelling &amp; Programming for Business , Supply Chain Management , Digital Transformation in Services , Service Operations Management , Managing Change , Negotiations.</p> | <p>Process Fundamentals, Forecasting and Time Series Prediction, Customer Analytics, Simulation Modeling I: Data Processing and Monte Carlo Simulation, Supply Chain Management, Data Driven Investment s, Pricing Analytics, Simulation Modeling II: Queueing and Discrete Event Simulation, Analytics Leadership, and Analytics Internship.</p> | <p>Markets; Global Corporate Finance; Global Financial Markets; Global Supply Chain Management; Inequality and Business; Leading Responsibility; Macroeconomics for Managers; Managing Risk in Organizations; Predictive Analytics; Pricing &amp; Revenue Analytics; Social Media Analytics and Digital Marketing; Sustainability; Systems Thinking; Technology and Humanity.</p> | <p>Media Analytics , Analytics and Open Innovation , Healthcare Analytics , Security Analytics , Advanced Topics in Information Systems,, Advanced Topics in Strategy Analytics , Revenue Management , Operations and Supply Chain Analytics , Introduction to Artificial Intelligence and Deep Learning , Advanced Marketing Analytics , Internet Marketing Analytics,, Pricing Analytics , Retail Analytics , Advanced Topics in Marketing Analytics , Talent Analytics , Organizational Network Analysis , Advanced</p> | <p>Analytics for Management Analysis.</p> |  |
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|                         |  |   |  |   | Topics in Organization al Behaviour , Analytics and Solution Consulting Practicum , Analytics Internship,, Community Analytics Project |   |  |
| Graduation Requirements | Students must complete a capstone project and a total of 39 credits.   | Students must complete a total of 45 credits                        | Successful Completion of all courses. 39 credits<br><br>8-16 week internship | Completion of 36 credits  | Completion of 45 credits   | Completion of 36 credits  | Completion of 39 credits   |
| Total Tuition           | Proposed Domestic Tuition- \$40,000 and International Tuition \$60,000 | \$54,000 for domestic students \$84,100 for international students. | \$42,795 for domestic students \$63, 261 for international students          | \$38,250 for Domestic students \$73,800 for international students. | \$49,256 for domestic students, \$61.168 for international students  | \$41,400 for Domestic students \$72,630 for international students. | \$43,840 for domestic students \$79,900 for international students |



**Appendix 6- Alberta School of Business Current Student and Alumni Survey comments. We distributed our survey via the school of business newsletters to Bachelor of Commerce (BCom) and Master of Business Administration (MBA) students. During the period from September to November, we gathered 64 responses. Furthermore, through a survey disseminated through the alumni newsletter, we collected comments from 14 alumni. Prior consent was obtained before quoting any responses. Respondents who requested anonymity in the survey were not named.**

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| <p>"I do believe it would be valuable as it offers another important and key stream of Business to focus on. The analytics of business are extremely important and a good opportunity if you want to advance in business analytics at any firms.", MBA Candidate, Education Professional</p>   |
| <p>"Analytics is a vital skill nowadays for every role. Every professional needs to understand data to make important decisions.", Bhavneet Kaur, MBA Candidate, Finance Professional</p>  |
| <p>"Learning how to analyze large datasets is a crucial skill in 2023."-MBA Candidate, Healthcare Professional</p>   |
| <p>"AI and Machine learning are being used as analytics tools in other industries. It stands to reason that AI and Machine Learning will inform current and future managers about strategies related to AI."- MBA Candidate, Media Professional</p>  |
| <p>"This degree is important for the U of A to stay competitive with other larger universities."MBA Candidate, Real Estate Professional</p>  |
| <p>"A Master's in Business/Management Analytics program at the University of Alberta School of Business can meet the demands of the modern job market, enhance career opportunities for students, foster interdisciplinary collaboration, and contribute to the school's competitiveness and reputation. It aligns with the evolving needs of the business world and can be a valuable addition to the school's existing portfolio of master's programs."- Nathan Armani, MBA Candidate, Healthcare Professional</p> |
| <p>"The industry is in high demand, and it will be beneficial to study data analytics more to become competitive and keep up with the job demands." Stephanie Winata, MBA Candidate, Finance Professional</p>  |
| <p>"This is an up and coming area of focus that would entice many prospective students to the UofA."- MBA Candidate</p>  |
| <p>"This is an up and coming area of focus that would entice many prospective students to the UofA."MBA Candidate</p>  |
| <p>"I think with the sheer volume of data present in the world today [and no signs of slowing down], appropriately training analysts will be needed to make sense of the noise."-Nicole Vestby, MBA Candidate, Education Professional</p>  |
| <p>"In today's data-driven world, there is a significant and increasing demand for professionals with expertise in analytics. Businesses across various industries are relying on data analytics to make informed decisions, and there is a shortage of skilled professionals to meet this demand. I expect to learn data analytics skills through a program to fill the skills gap in labor market."- Weqin Fang, MBA Candidate, Business Analytics Professional</p>  |
| <p>"This is a skill that is becoming more in demand."-BCom Student, Business Technology Major</p>  |
| <p>"Specialized MBA will open more doors for graduates of ABS. MMA programs heavily into quants will lead to high paying careers." MBA Graduate 2023</p>   |

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| <p>“The university of alberta has great resources to ensure this is a success”-BCom Student, Business Technology Major</p>  |
| <p>“With the increase in technology and data around the world, a Masters in Management Analytics is crucial to ensure that the Alberta School of Business can compete and provide a high quality and relevant education.” - Manu Malotra, BCom Student, Business Technology Major</p>   |
| <p>“It will allow people like me to change fields if necessary”-BCom Student, Operations Management Major</p>   |
| <p>“I think with the partnerships the university has in the AI space this type of masters synergizes well.”MBA Candidate</p>  |
| <p>“It has a lot of importance in a world that relies heavily on data. Data fluent managers are critical to every business. This program can attract a lot of students to the faculty based on its potential.” Tushar Police, BCom Student, Business Technology Major</p>   |
| <p>“Introducing a Master of Management Analytics (MMA) program at the University of Alberta would greatly benefit students from China and other international regions. Such a program, with its emphasis on advanced analytics and strategic management, is key for those seeking success in today's data-driven global business environment. It offers a unique opportunity for students to gain insights into Western business practices and analytical strategies, an invaluable asset for those aspiring to global careers. Additionally, the program would enrich the university's academic diversity, attracting a wider array of international students and fostering deeper cross-cultural connections, thus reinforcing educational and cultural ties between Canada and nations worldwide.” Lingyi Hao, MBA Candidate</p> |
| <p>“Harnessing the power of the data we're now able to collect is critical to strong decision making”-Kris Clemens, MBA Candidate</p>   |
| <p>“Analytics and Data are so important in today's world, so I'd love to differentiate myself with a master's program like this.”BCom Student, Marketing Major</p>  |
| <p>“The U of A Master's programs promotes and facilitates networking opportunities with industry professionals. Supporting such initiatives shows a commitment to building connections between academia and industry, enhancing collaboration and knowledge exchange. I also desire to further my career in the province of Alberta.”Bolakunmi Banjo, MBA Candidate</p>   |
| <p>“I think it'll be important to have some sort of internship for experience to allow graduating students to be effective right away. Although this will have to be weighed carefully since it might be tough to get working professionals to take time off for this. In this space, it's tough to replace real world experience with class type work.” MBA Candidate</p>  |
| <p>“This program will enhance individuals ability to acquire understanding of complex managerial problems, while using data sources and analytical data sets to effectively communicate results needed in an ever-evolving business climate” -BCom Graduate, 2023</p>   |
| <p>“Data is key for decision making. To understand how to create, govern, manage, integrate, leverage data is a huge competitive advantage for anyone's career.”Susan Urra, MBA Graduate 2002</p>   |
| <p>“The skill and ability to analyze / interpret the various amounts of data / opinions / sources is critical to making informed decisions.”BCom Graduate, 1975</p>   |
| <p>“The Master's in Business/Management Analytics program will provide students the opportunity to deepen their knowledge of analytics or diversify their understanding of analytics from a world class institution,</p>  |

which in turn will further the industry as a whole.”-Mackenzie Dulc, BCom Graduate, 2023

“Successful application of analytics requires the marriage of business domain knowledge with math and computing skills. We need to grow a cohort of business leaders capable of navigating both sides of this ledger.”- James Freeman, MBA Graduate, 1995

“Analytics is foundational for all companies as data is key in decision making.”MBA Graduate, 1998

“Teaching relevant skills that are highly applicable in any industry and valued by many employers”- Rahul Bhatnagar, BCom Graduate, 2023

**Appendix 7**  
**Mid-Senior Management-Level Job Titles and Descriptions**  
**Source:Indeed**

| Job Title                 | Description  |
|---------------------------|--|
| Risk Analyst              | Assess and manage various types of risks within an organization using data analysis.                             |
| Supply Chain Analyst      | Optimize supply chain processes for efficiency and cost-effectiveness.   |
| Financial Analyst         | Analyze financial data to inform investment, planning, and risk management decisions                             |
| Marketing Analyst         | Analyze marketing data to optimize campaigns, customer segmentation, and ROI.                                    |
| Healthcare Data Analyst   | Work in the healthcare industry to analyze patient data, outcomes, and healthcare processes.                     |
| Fraud Analyst             | Detect and prevent fraudulent activities through data analysis and pattern recognition.                          |
| Pricing Analyst           | Determine pricing strategies by analyzing market data, competition, and consumer behavior.                       |
| HR Analyst                | Use data to inform human resources decisions, including talent acquisition, retention, and performance analysis. |
| Customer Insights Analyst | Analyze customer data to identify trends, preferences, and opportunities for improved customer experiences.      |
| Environmental Analyst     | Use data to assess environmental impact, sustainability, and compliance in various industries.                   |
| E-commerce Analyst        | Analyze online shopping data to improve user experiences, sales, and conversion rates.                           |
| Cybersecurity Analyst     | Focus on analyzing and mitigating cybersecurity threats and vulnerabilities using data analysis.                 |
| Chief Data Officer (CDO)  | Oversee an organization's data strategy, governance, and analytics initiatives at the executive level.           |
| Director of Analytics     | Lead the analytics department, setting strategy,   |

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|   | managing teams, and ensuring data-driven decision-making.  |
| Head of Data Science  | Lead data science teams, set research agendas, and guide advanced analytics projects to support the business.  |
| Chief Analytics Officer (CAO)                                   | Establish and lead analytics functions within organizations, aligning analytics with business goals and vision.  |
| Senior Data Strategist  | Develop and implement data strategies to drive business growth, ensuring data aligns with organizational goals.  |
| Chief Strategy Officer (CSO)                                    | Set strategic direction for the organization, using data and analytics to inform long-term business strategies.  |
| Senior Manager of Analytics                                     | Manage analytics teams, projects, and initiatives, providing leadership and strategic guidance.  |
| Executive Director of Business Intelligence                     | Lead high-level business intelligence efforts, aligning data insights with corporate strategy.   |
| Data Governance Manager   | Focuses on data governance and data quality initiatives, ensuring compliance with data standards and regulations.  |
| Machine Learning Developer                                      | The ML Developer designs and leads multiple analytic projects, applying analytics and statistical methods/techniques to data sets. Provide expertise and leadership in the design and completion of analytics projects.  |
| Assistant Registrar, Enrolment Research, Analytics and Insights | <p>The Assistant Registrar, Enrolment Research, Analytics and Insights (Assistant Registrar) is responsible for assessing the enrolment management needs of faculties and the University, and designing processes to actively monitor, manage, and report on enrolment.</p> <p>The Assistant Registrar provides leadership in developing enrolment management strategies, with a focus on undergraduate enrolment.</p> |

**Appendix 8: Draft Calendar Descriptions with credits/term offered/hours:**

**\*All courses listed in the table are new and are currently under development. The Calendar Description below is the draft version.**

| Core Courses   | Calendar Description   | Credits | Term Offered | Hours                   |
|--|--|---------|--------------|-------------------------|
| MMA 600<br>Boot Camp   | Two-Week Kick Start Bootcamp: Embark on a seamless learning journey as students engage in a well-rounded experience to master two essential programming languages—Python and R.  | 0       | August       | 18 hours over two weeks |
| MMA 601<br><b>Business Foundations and Strategic Decision Making</b> | Students are introduced to business fundamentals in the first session followed by second session that delves deep into the dynamic world of data-driven strategy, cultivating invaluable skills in utilizing data to frame decisions effectively   | 3       | August       | 3                       |
| <b>MMA 602 - Machine Learning For Business I</b>                     | The goal of the Machine Learning for Business course is to utilize machine learning techniques to transform raw data into valuable insights that can inform business strategies. This course demands a solid grasp of technical data handling methods as well as business goals. It involves an overview of various machine learning approaches, such as supervised and unsupervised learning, and their practical uses in business scenarios.   | 3       | Fall Term    | 3                       |
| <b>MMA 603 - Data Visualization and Business Communications</b>      | This course equips students with the ability to turn raw data into meaningful visualizations and communicate these insights in a business context. It covers the essentials of effective data visualization, visual design principles, and storytelling with data. Through hands-on practice with tools like Tableau and Excel, students will learn to create and interpret various visualizations, focusing on selecting the most appropriate visual forms to accurately reflect data and address business queries. | 3       | Fall Term    | 3                       |
| <b>MMA 604 - Database Fundamentals for Business Analytics</b>        | Provides students with an understanding of the critical role of databases in business analytics, focusing on the principles of database systems, design, implementation, and utilization in a business context. students are introduced  | 3       | Fall Term    | 3                       |

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|  | to fundamental concepts of data and information management.  |   |             |   |
| <b>MMA 605 - Statistics Analytics and Causal Inference</b> | This course provides students with a robust foundation in statistical principles and techniques, alongside essential skills in descriptive analytics and causal inference. Students will develop strong analytical skills and gain hands-on experience with statistical software. Further delving into time series analysis, multivariate analysis and enhanced predictive modeling. Students will also gain proficiency in experimental design including ANOVA and A/B testing.   | 3 | Fall Term   | 3 |
| <b>MMA 606 - Machine Learning for Business II</b>          | Builds upon the foundational knowledge students acquired in “Machine Learning for Business I”, diving deeper into the specialized applications of machine learning techniques to unstructured data. By exploring areas such as text analytics, network analytics, recommender systems, and deep learning applications, students will gain a robust understanding of how to handle and analyze unstructured data such as text and images, which constitute a significant proportion of the data businesses encounter  | 3 | Winter Term | 3 |
| <b>MMA 607 - Prescriptive Analytics</b>                    | This course is designed to provide a foundation of prescriptive analytics based on mathematical modeling and optimization for managerial decision-making. Topics covered in the course include decision analysis; simulation modeling; constraint programming and constraint-based optimization; network optimization and graph algorithms; optimization under uncertainty; application of prescriptive analytics techniques in various industries; integration of predictive and prescriptive analytics; and practical implementation of prescriptive analytics techniques to solve real-world problems. By the end of the course, students will have a solid | 3 | Winter Term | 3 |

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|  | understanding of prescriptive analytics techniques and their practical applications  |   |               |   |
| <b>MMA 608 - Business Applications of Artificial Intelligence</b>      | This comprehensive course, co-taught by a panel of expert instructors, aims to provide students with an in-depth understanding of how artificial intelligence (AI) technologies are applied in real-world business settings. It introduces students to a range of AI applications across different industries and functional areas, highlighting the transformative potential of AI in driving innovation, improving operational efficiency, and creating competitive advantages | 3 | Winter Term   | 3 |
| <b>MMA 609 - Responsible AI &amp; Ethical Issues in Data Analytics</b> | This course focuses on the ethical and legal considerations in artificial intelligence (AI) and data analytics, fields that are evolving rapidly and prompting novel ethical and regulatory concerns. It will cover subjects such as data privacy, fairness in algorithms, interpretability, and accountability. Participants will be educated on the responsible and ethical application of AI and data analytics technologies.   | 3 | Winter Term   | 3 |
| <b>MMA 610 - Analytics Capstone Project</b>                            | This course represents the apex of the MMA program, extending over two semesters, and offers students an immersive, real-world experience in analytics. The "Analytics Capstone Project" serves as a significant demonstration of the students' analytical skills and their capacity to make data-informed decisions in intricate business environments.   | 6 | Spring/Summer | 3 |

**List of Electives:**

|                                    |   |   |               |   |
|------------------------------------|---|---|---------------|---|
| MMA 611<br>Accounting<br>Analytics | This course combines advanced data analytics and technology, essential for modern accounting, as part of the Master of Management Analytics program. It is structured into two main parts: Data Analytics and Technology Integration in Accounting, | 3 | Spring/Summer | 3 |
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|  | with a strong emphasis on practical learning. Students will use data analytics tools like OLS, logistic and probit regressions, and optimization analysis to address various accounting challenges. The curriculum covers financial and managerial accounting, auditing, and taxation, focusing on problem-solving and decision-making. This prepares students for roles in audit risk assessment, audit procedures, and strategic tax planning and compliance.  |   |               |   |
| <b>MMA 612<br/>Financial Analytics</b>                             | This course integrates financial skills with data science for enterprise decision-making, structured into four key sections. It covers core financial modeling skills, including interest rate discounting and uncertainty modeling, and explores Real Optionality to understand how management decisions and uncertainties affect valuation, focusing on NPV@Risk. The section on Decision Quality (DQ) delves into its relevance in business, biases, risk definition differences in finance and enterprise, and practical implementation strategies. Lastly, the course emphasizes creating interactive Data Science applications, teaching students to develop apps for engaging senior management, with all content exclusively using R programming.                    | 3 | Spring/Summer | 3 |
| <b>MMA 613 -<br/>Operations and<br/>Supply Chain<br/>Analytics</b> | This course prepares students to tackle complex business logistics challenges using advanced analytics techniques such as regression, optimization, and simulation. It focuses on key areas like inventory management, site selection, revenue optimization, and transportation logistics, emphasizing data-driven approaches for cost minimization, operational efficiency, and market responsiveness. Students will apply real-world data to enhance supply chain operations, including developing effective pricing strategies and optimizing delivery routes. The course offers hands-on experience with extensive supply chain datasets, equipping students with the skills to turn data into actionable insights for innovative and efficient supply chain management. | 3 | Spring/Summer | 3 |
| <b>MMA 614 -<br/>Marketing<br/>Analytics</b>                       | This marketing course equips students with tools to generate actionable insights by understanding consumers and market trends. It focuses on designing analytical plans to tackle marketing problems, covering aspects   | 3 | Spring/Summer | 3 |

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|  | <p>from data collection to communicating findings. Key skills include measuring variables, choosing appropriate analytical methods, interpreting data analysis techniques, and effective storytelling. The course prepares students for roles in marketing analytics across various sectors and emphasizes a hands-on approach, with project design and data analysis in class. Upon completion, students will be proficient in areas like marketing research, experimental design (e.g., A/B testing), data collection, regression analysis, segmentation, machine learning applications in marketing, and results communication.</p>  |   |               |   |
| <p><b>MMA 615 - Healthcare Analytics</b></p> | <p>This course is a gateway to healthcare analytics, teaching students how data reshapes healthcare strategy and improves patient care quality. It covers extracting and processing data from various sources like electronic health records and wearable devices, and advanced analytics techniques such as predictive modeling and machine learning for patient outcomes and diagnostics. Students will understand the ethical and legal aspects of handling sensitive patient data and learn to optimize healthcare operations like patient flow and resource allocation. The course emphasizes data-driven decision-making, with practical applications through case studies, projects, and guest lectures from industry experts, fostering interdisciplinary expertise to tackle healthcare challenges.</p>                          | 3 | Spring/Summer | 3 |
| <p><b>MMA 616 - Strategy Analytics</b></p>   | <p>This course is designed to prepare future managers to effectively integrate data science and business analytics into strategic decision-making. It provides an overview of how these functions can harmonize to create effective strategies while highlighting the pitfalls of poor integration. Students will learn about strategic vision, data-driven decision frameworks, competitive intelligence, risk assessment, and the use of performance metrics for continuous improvement. The course includes real-world case studies to apply theory to practice and emphasizes ethical considerations in data strategy, focusing on responsible data use, transparency, and privacy. By the end, students will understand the interplay between data science and business analytics and be able to develop strategies aligned with</p> | 3 | Spring/Summer | 3 |

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|  | organizational goals. |  |  |  |
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## Appendix 9: Library Impact Statement

### Library Impact Statement

Faculties seeking changes to existing programs must consider and seek the agreement to any impact of the proposed program changes on the library system and on course enrolments in other academic units. In addition, any new program proposal going forward for approval will require a service impact statement. Where the affected Faculties and/or Library are in agreement this statement will note that fact and details of the arrangement.

Please contact your [subject librarian](#) to solicit feedback on your program proposal and request a Library Impact Statement.

#### Library Contact:

|   |  |
|---|--|
| Name: Céline Gareau-Brennan                                     | Date: September 19th 2023                |
| Library Unit: Faculty Engagement (Social Sciences + Humanities) | Email: celine.gareau-brennan@ualberta.ca |

#### Program Proposal Contact:

|                                     |   |
|-------------------------------------|---|
| Name: Dr. Borzou Rostami            | Dept./School: Department of Accounting and Business Analytics |
| Faculty: Alberta School of Business | E-mail: borzou@ualberta.ca                                    |

#### Proposed Program Changes:

The Master of Management Analytics (MMA) is a proposed program that will be offered by the Alberta School of Business. The MMA program is a 1 year, full-time course-based masters degree program targeted to students who have recently completed a STEM or Business undergraduate degree. The program will focus on training managers to design, lead and execute data driven projects across industries. The main objective of the MMA program is to equip students with comprehensive knowledge and practical skills to effectively apply state-of-the-art analytics tools. Throughout the program, students will demonstrate their ability to design and move data analytics projects from conception to application successfully.

Kicking off on August 15th, the program features an immersive three-week coding bootcamp uniquely designed to equip students with a solid foundation in programming logic and key concepts. Following the bootcamp, students will then enter the Fall term, where they'll delve into the core curriculum of the MMA program, structured around the following four major pillars:

1. Business analytics fundamentals
2. Business analytics process and management
3. Analytics applications across functional areas
4. Experiential learning

In the fall term, students take business analytics fundamentals courses: Machine learning for business I; Data management of business analytics; and Descriptive analytics and data visualization. Courses in the winter term emphasize analytics process and management: Machine Learning for business II, Business Applications of artificial intelligence, Prescriptive Analytics, and Responsible AI and ethical issues in data analytics. In the spring and summer terms, students take functional area elective courses: Accounting analytics, Operations and supply chain analytics, Financial Analytics, Human resources analytics, Marketing, and Healthcare analytics. An experiential education field project performed in groups of 3-4 will be completed over the spring and summer semesters.

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The plan is to enroll 25 new students in each of the first two years, then in the 3rd year enroll 35 students, and then 50 students in the 4th year and beyond.

All courses involved in the certificate are new courses, however most of these would make use of resources that the library already has access to. That being said, it is possible that the vendor agreement for our databases need to be re-examined, in the case of students desiring access to analyze and manipulate big sets of data.

| Library Service or Resource | Description of Library Impact |
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| <p>Instruction (e.g., classes with a librarian, tours, online resource guides, online tutorials, etc.)</p> | <p>Instruction sessions related to Business, Computer Engineering, Computer Science, GIS and Research Data, as well as Media and Technology Studies may be useful for students in the MMA program.</p> <p>Instruction for digital projects, such as those from the Digital Scholarship Centre, may be useful for students in the program.</p> <p>The Library offers a range of <a href="#">workshops</a> throughout the academic year to assist students with their research needs. In addition, <a href="#">online instructional guides</a> and <a href="#">tutorials</a> are accessible via the Library's web site to support the research process.</p> <p>Course/assignment specific instruction is also available via <a href="#">Faculty Engagement Librarians</a> for business, computer engineering, and computer science.</p> <p>It would also be beneficial to include <a href="#">Digital Scholarship Centre</a> staff in any discussion of instruction such as the Head, Digital Scholarship Services, Digital Scholarship Technologies Librarian, in addition to this unit's Digital Scholarship Specialists.</p> <p>Depending on the specific request, it would be useful to have the support from the Library staff from the <a href="#">Digital Repository &amp; Data Services</a> such as Digital Content Specialists and the GIS Librarian. Depending on how the data is used it may also be necessary to have instruction by the Director, <a href="#">Research Data Management</a> and Academic Director, <a href="#">University of Alberta Research Data Centre</a>.</p> <p>Given all this Library Staff and the Library has the capacity to support instruction in this Program/Certificate, though it may take some effort from the Business Librarians to coordinate instruction.</p> |
| <p>Reference assistance (e.g., ongoing one-on-one help)</p>  | <p>The <a href="#">Faculty Engagement Librarians</a> and staff associated with Business, Computer engineering, Computer science, the <a href="#">Digital Scholarship Centre</a>, the <a href="#">Digital Repository &amp; Data Service</a> Unit, and the <a href="#">Research Data Management</a> Unit will be able to accommodate requests for assistance via email, phone, or online.</p> <p>General reference assistance is available at all University of Alberta Library <a href="#">service desks</a> and online via <a href="#">Ask us services</a>.</p>  |
| <p>Collections – course materials, print, electronic [note any</p>   | <p>The Library's current holdings and subscriptions to print and electronic resources successfully support research, instruction, and study in many of the</p>   |

impacts on simultaneous users, licensing considerations etc.]

subject areas that will be the focus of this program. That being said, many licensed resources do not permit systematic downloading or large-scale analysis of the data contained in their databases.

In the case of students seeking the ability to perform large-scale analysis or manipulation of datasets produced from library resources, additional resources or license permissions may need to be acquired. The Library's Collections Strategies Unit is responsible for acquisitions of library materials, and will be ready to respond to the needs of researchers, instructors, and students from this program. Requests would be prioritized, and the Library can never purchase everything that is requested, but we'd do our best to support the program adequately.

Certain items that are not available and/or accessible through the Library could potentially be requested through [Interlibrary Loan](#) or it may be useful to look at Open Data Sets as substitutes.

Resources with particular relevance to this program include:

- [ACM Digital Library](#)
- [Business Source Complete](#)
- [Canadian Business & Current Affairs Database \(CBCA\)](#)
- Various datasets accessible via [CHASS](#)
- [Compendex](#)
- [DLI \(Data Liberation Initiative\)](#)
- [ICPSR](#)
- [IEEE Xplore](#)
- [<odesi>](#)
- [ProQuest One Business](#)
- Various datasets accessible via [WRDS](#)

Other subject specific [databases](#) and resources may be required.

The Library also supports [course reading list and reserve requests](#) online using the [Talis platform](#).

The Library is a partner in the [Data Liberation Initiative \(DLI\)](#) also a site of a [Statistics Canada Research Data Centres \(RDCs\)](#). For more information about these students can contact [data@ualberta.ca](mailto:data@ualberta.ca)

The Library's [Data](#), [Free Online Resources \(data page\)](#), [Computing Science](#), [Electrical & Computer Engineering](#) and various [Business Subject Guides](#) will be relevant to students taking specific courses in the MMA.


|  |  |
|--|--|
| Collaboration with other UAL library units, if interdisciplinary program (consult with the other UAL units affected and include their comments with yours) | <p>Given the interdisciplinary nature of this program, the following library units have been consulted in the preparation of this impact statement:</p> <ul style="list-style-type: none"> <li>• Collections Strategies Unit</li> <li>• Digital Repository &amp; Data Services</li> <li>• Digital Scholarship Centre</li> <li>• Faculty Engagement (Natural + Applied Sciences) Unit</li> <li>• Research Data Management Unit</li> </ul> |
|--|--|


University of Alberta Library Impact Statement November, 2022

|   |   |
|---|---|
|   | <ul style="list-style-type: none"> <li>• Faculty Engagement (Social Sciences + Humanities) Unit</li> </ul> <p>The <a href="#">Digital Scholarship Centre</a> (DSC) is another library facility that may be of use to those completing this certificate/program given their innovative resources, including access to the <a href="#">DSC Makerspace</a>. Any student can gain access to these resources, including <a href="#">high performance computers</a>, in this facility provided the use is tied to a curriculum based project.</p> |
| Physical facilities (e.g., sufficient room for group work; in-library work, etc.) | <p>Physical facilities are in place to support student research needs. There are bookable group <a href="#">study spaces</a>, as well as collaborative and individual study spaces in all library locations.</p> <p>This is also a program in which the <a href="#">Digital Scholarship Centre's spaces</a> may be of use such as the Visualization Lab and the Multipurpose</p>  |
| Other (specify)   |   |

Proposal has an impact on the Library and can be supported.

Proposal can be supported with additional resources; see attached details.

| Unit Head Name      | Unit Head Signature  | Date               |
|---------------------|--|--------------------|
| Dr. Christine Brown |  | September 21, 2023 |

| Associate University Librarian Name | Associate University Librarian Signature   | Date               |
|-------------------------------------|--|--------------------|
| Sharon Murphy                       |  | September 21, 2023 |

Proposal has no impact on the Library. University of Alberta Library Impact Statement November, 2022

## Appendix 10: Continuous Improvement Review Timeline



### CONTINUOUS IMPROVEMENT REVIEW TIMELINE

#### 2025-2026 VISIT YEAR

The Continuous Improvement Review Process is displayed below as a timeline. This five-year review cycle remains constant throughout the cycle of consecutive review for a school, irrespective of whether a continuous improvement review 2 is required. Therefore, Year 1 represents the academic year immediately following an on-site review, regardless of whether or not an accreditation decision has been made. The next visit will occur in Year 5. The Continuous Improvement Review Committee is responsible for oversight of the Continuous Improvement Review process for review.

| Year 1<br>(July 1, 2021 – June 30, 2022)  | Year 2<br>(July 1, 2022 – June 30, 2023)  | Year 3<br>(July 1, 2023 – June 30, 2024)  | Year 4<br>(July 1, 2024 – June 30, 2025)  | Year 5<br>(July 1, 2025 – June 30, 2026)  |
|---|---|---|---|---|
| <ul style="list-style-type: none"> <li>Review and Refine Strategic Management Plan</li> </ul>   | <ul style="list-style-type: none"> <li>Review and Refine Strategic Management Plan</li> </ul>   | <ul style="list-style-type: none"> <li>Review and Refine Strategic Management Plan</li> </ul>   | <ul style="list-style-type: none"> <li>Review and Refine Strategic Management Plan</li> </ul>   | <ul style="list-style-type: none"> <li>Review and Refine Strategic Management Plan</li> </ul>   |
| <ul style="list-style-type: none"> <li>Complete the <a href="#">Required Business School Questionnaire (BSQ)</a> Modules for the prior academic year</li> <li>Schools with Supplemental Accounting Accreditation should also complete the <a href="#">Accounting Program Questionnaire</a></li> </ul> | <ul style="list-style-type: none"> <li>Complete the <a href="#">Required Business School Questionnaire (BSQ)</a> Modules for the prior academic year</li> <li>Schools with Supplemental Accounting Accreditation should also complete the <a href="#">Accounting Program Questionnaire</a></li> </ul> | <ul style="list-style-type: none"> <li>Complete the <a href="#">Required Business School Questionnaire (BSQ)</a> Modules for the prior academic year</li> <li>Schools with Supplemental Accounting Accreditation should also complete the <a href="#">Accounting Program Questionnaire</a></li> </ul> | <ul style="list-style-type: none"> <li>Complete the <a href="#">Required Business School Questionnaire (BSQ)</a> Modules for the prior academic year</li> <li>Schools with Supplemental Accounting Accreditation should also complete the <a href="#">Accounting Program Questionnaire</a></li> </ul> | <ul style="list-style-type: none"> <li>Complete the <a href="#">Required Business School Questionnaire (BSQ)</a> Modules for the prior academic year</li> <li>Schools with Supplemental Accounting Accreditation should also complete the <a href="#">Accounting Program Questionnaire</a></li> </ul> |
|   |   | <ul style="list-style-type: none"> <li>July 1, 2023 two years prior to visit year - Submit Continuous Improvement Review Application(s)</li> </ul>  | <ul style="list-style-type: none"> <li>Peer Review Team and visit date confirmed.</li> </ul>  | <ul style="list-style-type: none"> <li>Distribute Completed Continuous Improvement Review Report(s) 60 Days Prior to Visit</li> </ul>   |
|   |   | <ul style="list-style-type: none"> <li>CIRC or AAC rules on exclusions and the scope of the accreditation visit</li> </ul>  | <ul style="list-style-type: none"> <li>Begin communications with Peer Review Team</li> </ul>  | <ul style="list-style-type: none"> <li>Work with Peer Review Team Chair to finalize the Visit Schedule</li> </ul>   |
|   |   | <ul style="list-style-type: none"> <li>Date and Peer Review Team Nomination Request sent to school (February) See <a href="#">Accreditation Policies &amp; Procedures</a> for Volunteer Deployment and Selection</li> </ul>   |   | <ul style="list-style-type: none"> <li>Peer Review Team Visit</li> </ul>  |
|   |   | <ul style="list-style-type: none"> <li>Return Date and Peer Review Team Nominations form to AACSB (March 2024)</li> </ul>   |   |   |

CIRreviewTimeline\_v20220202



**Appendix 11: Potential Instructors' CVs**  
[Instructor CVs](#)

**Appendix 12: Letters of Support (In Progress)**

1. AltaML
2. ATB Financial



10130 103 Street #2200  
Edmonton, AB  
T5J 3N9



**December 19, 2023**

To whom it may concern,

I'm writing to you today in support of the Masters in Management Analytics (MMA) program at the University of Alberta.

The introduction of the MMA program, tailored for students who have successfully completed STEM or Business undergraduate degrees, presents a significant opportunity to enhance our region's reputation as a premier technology hub. The University of Alberta's distinguished standing in artificial intelligence (AI) and machine learning (ML) research, ranked fifth globally, further reinforces the potential for this program to contribute to our position as a leading centre for tech talent in Western Canada.

The escalating demand for individuals well-versed in real-world applications of analytics, AI, and ML underscores the necessity for advanced training options. Given the rapid growth of the industry, it is imperative to address this demand now rather than later, particularly at the master's level. The MMA program will help fill this gap, equipping future professionals in the space with essential skills and competencies necessary to succeed.

What will set the MMA program apart is its approach to bridging technical expertise with business applications. This interdisciplinary focus not only aligns with industry needs but also positions Alberta's educational landscape as more informed and data-driven. By imparting knowledge that enables effective, responsible, competitive, and ethical use of data, the program ensures graduates are well-prepared to contribute meaningfully to the evolving field.

The MMA program aims to apply state-of-the-art analytics tools to address real-world business challenges—an objective that resonates strongly with me. I believe that offering such an initiative at the University of Alberta will not only elevate the calibre of education in our

province but also empower individuals to make a lasting impact, and encourage them to stay and work in our communities.

Regards,

A handwritten signature in blue ink, appearing to read "Nicole J.", is displayed on a light gray rectangular background.

Nicole Janssen  
Co-Founder and Co-CEO, AltaML

January 2, 2024

Dr. Mike Maier  
Associate Dean, Masters Program  
University of Alberta  
College of Social Sciences and Humanities  
Alberta School of Business  
1211 Saskatchewan Drive  
Edmonton, Alberta, Canada  
T6G 2R6

## Support for Masters in Management Analytics Program

Dear Dr. Maier

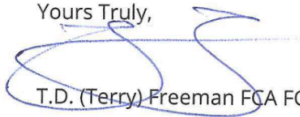
I am very pleased that the U of A School of Business is pursuing a Masters in Management Analytics Program.

Through my exposure at ATB, as an investor in many businesses through ATB Private Equity, LP and personally, and as a Board member at an artificial intelligence and machine learning business the requirement for the knowledge and skills developed through such a program are evident and accelerating.

The ability to translate sound business principles in analytics use cases is essential to the successful implementation of AI and ML concepts. I am very pleased that this program will be housed in the Alberta School of Business.

The U of A has a world leading reputation in this field, and the Masters in Management Analytics Program will aid the institution in keeping and building on that reputation, and I wholeheartedly support moving forward with it, as a U of A alum, and employer of the graduates from the program.

Yours Truly,



T.D. (Terry) Freeman FCA FCPA ICD.D, Head of Investments, ATB Private Equity

(Optional) Department name | Date

**Appendix 12: External Reviewers Report (In Progress)**