

**Bachelor of Science (Business Analytics)
with Second Major in Innovation & Design**

Cohort AY2021/2022

| Modular Requirements | Modular Credits (MCs) |
|--|------------------------------|
| University Level Requirements ¹ | |
| GE1: Critique and Expression ² | 4 |
| GE2: Communities and Engagement ² | 4 |
| GE3: Cultures and Connections ² | 4 |
| GE4: Singapore Studies ² | 4 |
| Sub-total for University Level Requirements | 16 |
| Programme Requirements | |
| BT1101 Introduction to Business Analytics ¹ | 4 |
| CS1010S Programming Methodology ¹ | 4 |
| IS1103 Ethics in Computing | 4 |
| MA1521 Calculus for Computing <u>or</u> MA2002 Calculus | 4 |
| MA1311 Matrix Algebra <u>or</u> MA2001 Linear Algebra I | 4 |
| BT2101 Econometrics Modeling for Business Analytics | 4 |
| BT2102 Data Management and Visualisation | 4 |
| BT2103 Optimization Methods in Business Analytics | 4 |
| BT2201 Business Concepts and Metrics for Analytics | 4 |
| ST2334 Probability and Statistics | 4 |
| CS2030 Programming Methodology II | 4 |
| CS2040 Data Structures and Algorithms | 4 |
| IS2101 Business and Technical Communication | 4 |
| BT3102 Computational Methods for Business Analytics | 4 |
| BT3103 Application Systems Development for Business Analytics | 4 |
| IS3103 Information Systems Leadership and Communication | 4 |
| BT4103 Business Analytics Capstone Project | 8 |
| Programme electives | 24 |
| IS4010 Industry Internship Programme <u>or</u> BT4101 BSc Dissertation ³ | 12 |
| Sub-total for Programme Requirements | 108 |
| Unrestricted Electives | |
| Group A module for Second Major | 4 |
| Group B module for Second Major | 4 |
| Group C modules for Second Major (Innovation & Enterprise electives) | 8 |
| EG3301R DCP Project (over 2 consecutive semesters) | 12 |
| EG4301 DCP Dissertation <u>or</u> EG4301A Ideas to Start-up ³ (over 2 consecutive semesters) | 12 |
| Sub-total for Unrestricted Electives | 40 |
| Total | 164 |

Notes:

- ¹ Data Literacy and Digital Literacy pillars are satisfied by BT1101 and CS1010S, respectively.
- ² Students may read equivalent modules in USP/NUSC, UTCP, and RVRC.
- ³ Subject to approval from SoC, students with CAP of 4.00 and above may read EG4301/EG4301A in lieu of BT4101.

Recommended semester schedule

| Semester 1 | MCs | Semester 2 | MCs |
|--|-----------|--|-----------|
| BT1101 Introduction to Business Analytics | 4 | BT2102 Database Management and Visualization | 4 |
| CS1010S Programming Methodology | 4 | BT2201 Business Concepts and Metrics for Analytics | 4 |
| IS1103 Ethics in Computing | 4 | CS2030 Programming Methodology II | 4 |
| MA1311 Matrix Algebra or MA2001 Linear Algebra I | 4 | IS2101 Business and Technical Communication | 4 |
| GE1 | 4 | MA1312 Calculus with Applications or MA1521 Calculus for Computing | 4 |
| Sub-total | 20 | Sub-total | 20 |

| Semester 3 | MCs | Semester 4 | MCs |
|---|-----------|---|-----------|
| BT2101 Econometrics Modeling for Business Analytics | 4 | BT3102 Computational Methods for Business Analytics | 4 |
| BT2103 Optimization Methods in Business Analytics | 4 | BT3103 Application Systems Development for Business Analytics | 4 |
| CS2040 Data Structures and Algorithms | 4 | IS3103 Information Systems Leadership and Communication | 4 |
| ST2334 Probability and Statistics | 4 | GE2 | 4 |
| Group A module for Second Major | 4 | EG3301R DCP Project | 6 |
| Group B module for Second Major | 4 | | |
| Sub-total | 24 | Sub-total | 22 |

| Semester 5 | MCs | Semester 6 | MCs |
|--|-----------|--------------------------------------|-----------|
| EG3301R DCP Project | 6 | IS4010 Industry Internship Programme | 12 |
| BT4103 Business Analytics Capstone Project | 8 | Programme Elective 2 | 4 |
| Programme Elective 1 | 4 | Programme Elective 3 | 4 |
| GE3* | 4 | | |
| Sub-total | 22 | Sub-total | 20 |

| Semester 7 | MCs | Semester 8 | MCs |
|--|-----------|--|-----------|
| EG4301 DCP Dissertation or EG4301A Ideas to Start-up | 6 | EG4301 DCP Dissertation or EG4301A Ideas to Start-up | 6 |
| Innovation & Enterprise Elective 1 | 4 | Innovation & Enterprise Elective 2 | 4 |
| Programme Elective 4 | 4 | Programme Elective 5 | 4 |
| GE4 * | 4 | Programme Elective 6 | 4 |
| Sub-total | 18 | Sub-total | 18 |

* Students in UTCP and RVRC will need to overload in Semesters 2 to 4 in order to clear these modules earlier.

Recommended semester schedule
(for students in year-long NOC programmes)

| Semester 1 | MCs | Semester 2 | MCs |
|--|-----------|--|-----------|
| BT1101 Introduction to Business Analytics | 4 | BT2102 Database Management and Visualization | 4 |
| CS1010S Programming Methodology | 4 | BT2201 Business Concepts and Metrics for Analytics | 4 |
| IS1103 Ethics in Computing | 4 | CS2030 Programming Methodology II | 4 |
| MA1311 Matrix Algebra or MA2001 Linear Algebra I | 4 | IS2101 Business and Technical Communication | 4 |
| GE1 | 4 | MA1312 Calculus with Applications or MA1521 Calculus for Computing | 4 |
| Sub-total | 20 | Sub-total | 20 |

| Semester 3 | MCs | Semester 4 | MCs |
|---|-----------|---|-----------|
| BT2101 Econometrics Modeling for Business Analytics | 4 | BT3102 Computational Methods for Business Analytics | 4 |
| BT2103 Optimization Methods in Business Analytics | 4 | BT3103 Application Systems Development for Business Analytics | 4 |
| CS2040 Data Structures and Algorithms | 4 | IS3103 Information Systems Leadership and Communication | 4 |
| ST2334 Probability and Statistics | 4 | GE2 | 4 |
| Group A module for Second Major | 4 | EG3301R DCP Project | 6 |
| Group B module for Second Major | 4 | | |
| Sub-total | 24 | Sub-total | 22 |

| Semester 5 | MCs | Semester 6 – NOC | MCs |
|--|-----------|------------------|-----------|
| EG3301R DCP Project | 6 | NOC | |
| BT4103 Business Analytics Capstone Project | 8 | | |
| Programme Elective 1 | 4 | | |
| GE3* | 4 | | |
| Sub-total | 22 | Sub-total | 20 |

| Semester 7 – NOC | MCs | Semester 8 | MCs |
|------------------|-----------|----------------------|-----------|
| NOC | | Programme Elective 2 | 4 |
| | | Programme Elective 3 | 4 |
| | | Programme Elective 4 | 4 |
| | | Programme Elective 5 | 4 |
| | | GE4 * | 4 |
| Sub-total | 20 | Sub-total | 20 |

* Students in UTCP and RVRC will need to overload in Semesters 2 to 4 in order to clear these modules earlier.

A year-long NOC programme comprises the following modules:

- TR3201N Entrepreneurship Practicum (8 MCs) – replaces EG4301A (4 MCs out of 12 MCs) and one Business Analytics programme elective (4 MCs)
- TR3202N Start-up Internship Programme (12 MCs) – replaces IS4010 Industry Internship Programme (12 MCs)
- TR3203N Start-up Case Study and Analysis (8 MCs) – replaces EG4301A (8 MCs out of 12 MCs)
- Entrepreneurship courses (up to 12 MCs) – replaces Innovation & Enterprise electives (up to 8 MCs) while the rest are counted as UE

Recommended semester schedule
(for students in one-semester NOC programmes)

| Semester 1 | MCs | Semester 2 | MCs |
|--|-----------|--|-----------|
| BT1101 Introduction to Business Analytics | 4 | BT2102 Database Management and Visualization | 4 |
| CS1010S Programming Methodology | 4 | BT2201 Business Concepts and Metrics for Analytics | 4 |
| IS1103 Ethics in Computing | 4 | CS2030 Programming Methodology II | 4 |
| MA1311 Matrix Algebra or MA2001 Linear Algebra I | 4 | IS2101 Business and Technical Communication | 4 |
| GE1 | 4 | MA1312 Calculus with Applications or MA1521 Calculus for Computing | 4 |
| Sub-total | 20 | Sub-total | 20 |

| Semester 3 | MCs | Semester 4 | MCs |
|---|-----------|---|-----------|
| BT2101 Econometrics Modeling for Business Analytics | 4 | BT3102 Computational Methods for Business Analytics | 4 |
| BT2103 Optimization Methods in Business Analytics | 4 | BT3103 Application Systems Development for Business Analytics | 4 |
| CS2040 Data Structures and Algorithms | 4 | IS3103 Information Systems Leadership and Communication | 4 |
| ST2334 Probability and Statistics | 4 | GE2 | 4 |
| Group A module for Second Major | 4 | EG3301R DCP Project | 6 |
| Group B module for Second Major | 4 | | |
| Sub-total | 24 | Sub-total | 22 |

| Semester 5 | MCs | Semester 6 – NOC | MCs |
|--|-----------|------------------|-----------|
| EG3301R DCP Project | 6 | NOC | |
| BT4103 Business Analytics Capstone Project | 8 | | |
| Programme Elective 1 | 4 | | |
| GE3* | 4 | | |
| Sub-total | 22 | Sub-total | 20 |

| Semester 7 | MCs | Semester 8 | MCs |
|--|-----------|--|-----------|
| EG4301 DCP Dissertation or EG4301A Ideas to Start-up | 6 | EG4301 DCP Dissertation or EG4301A Ideas to Start-up | 6 |
| Programme Elective 2 | 4 | Programme Elective 4 | 4 |
| Programme Elective 3 | 4 | Programme Elective 5 | 4 |
| GE4 * | 4 | Programme Elective 6 | 4 |
| Sub-total | 18 | Sub-total | 18 |

* Students in UTCP and RVRC will need to overload in Semesters 2 to 4 in order to clear these modules earlier.

A one-semester NOC programme comprises the following modules:

- TR3202S Start-up Internship Programme (12 MCs) – replaces IS4010 Industry Internship Programme (12 MCs)
- TR3204 Entrepreneurship Practicum (4 MCs) – replaces Innovation & Enterprise Elective 1
- Entrepreneurship course (4 MCs) – replaces Innovation & Enterprise Elective 2