

# Master of Science in Business Analytics Undergraduate to Graduate (MSBA U2G)

Plan of Study for Students Entering Fall 2021

## Fall (UG/Grad)

BAIS:9100:0700 Data and Decisions	3 sh
BAIS:6050:0700 or 800 Data Management and Visual Analytics	3
BAIS:6040:0700 Data Programming in Python (Fall) or BAIS:6060:0700 Data Programming in R (Spring)	3
BAIS:9400:0700 Professional Dev and Business Acumen	1

*Undergraduate coursework as required to complete degree*

## Spring (UG/Grad)

BAIS:6070:0700 Data Science	3
BAIS:8130:0701 Business Communication	1

*Undergraduate coursework as required to complete degree*

**A U2G student may take up to 14 s.h. of MSBA credit in the final year of undergraduate coursework.**

## Fall (Grad)

BAIS:6120:0700 Analytics Experience	3
BAIS:8130:0702 Business Communication (repeated)	1
Elective 1	3
Elective 2	3
Elective 3	3

## Spring (Grad)

BAIS:9110:0700 Advanced Analytics	3
BAIS:9400:0700 Professional Dev and Business Acumen (repeated)	1
Elective 4	3
Elective 5	3
Elective 6	3

**Total: 40 s.h.**

## U2G Shared Hours

- Up to 14 semester hours of MSBA coursework could be applied to the undergraduate semester hours needed for your bachelor degree. MSBA courses count as business elective hours.
- If a BAIS student has not taken a major core course by the U2G year, then the equivalent graduate level course should be taken and count toward the undergraduate and graduate degrees. If the BA or IS elective has not been completed, it could be fulfilled by taking a BAIS:6000+ course in the U2G year. Consult your advisor for complete details.

**Schedule Advising Meeting:** MyUI / Student Information / My Appointments / Select Advisor and Choose a Time

**Degree Audit:** Academic planning tool to review progress toward degree completion. MyUI / Student Information / Degree Audit. IP means in progress. + will show once completed.

**Pre-approved electives listed on the next 2 pages.**

**Course waiver:** *Waiving a core course does not reduce credit hours required for the degree—the waived course is replaced by an additional elective. To receive a waiver, contact your advisor at least two weeks prior to the start of the semester of the course you are seeking to waive.*

A student may waive BAIS:9100 Data and Decisions if as a Tippie undergrad the student received a grade of B or better in one of the following courses and an A– or better in at least one:

- BAIS:2800 Business Analytics or ECON:2800 AND
- Another class that uses Excel and statistics, including MKTG:3100 Marketing Research, ACCT:4100 Auditing, BAIS:3500 Data Mining, BAIS:3800 Optimization and Simulation Modeling, or ECON:3355 Econ and Business Forecasting. Request approval for additional coursework from advisor.
- For Tippie Business Analytics U2G students ONLY:** BAIS:2800 Business Analytics (minimum grade B) waives BAIS:9100 Data and Decisions.

Tippie Business Analytics undergraduate majors may be able to waive the following:

BAIS:3200 Database Management (minimum grade A-) waives BAIS:6050 Data Management & Visual Analytics  
 BAIS:3250 Data Wrangling (minimum grade A-) waives BAIS:6060 Data Programming in R  
 BAIS:3500 Data Mining (minimum grade A-) waives BAIS:6070 Data Science

# M.S. in Business Analytics (Career)

Consult MyUI for current course offerings and timing for a given semester, to check restrictions and pre-requisites, and for course descriptions: <https://myui.uiowa.edu/my-ui/courses/dashboard.page>

To request that a course not on this list be approved for MSBA credit, contact your advisor at least two weeks prior to the start of the semester; a syllabus will likely be requested for review. **Courses in BOLD are strongly recommended. Note that not all BAIS courses are offered every year. \* Elective if not taken as core**

## Approved Electives

BAIS:4280 Data Security	GEOG:3520 GIS for Environmental Studies
<b>BAIS:6040 Data Programming in Python*</b>	GEOG:3540 Intro to Geographic Visualization
<b>BAIS:6060 Data Programming in R*</b>	GEOG:4150 Health and Environment: GIS Applications
<b>BAIS:6100 Text Analytics</b>	GEOG:4580 Intro to Geographic Databases
<b>BAIS:6105 Social Analytics</b>	GEOG:5055 / IGPI 5055 Geospatial Programming
<b>BAIS:6110 Big Data Management and Analytics</b>	GEOG/IGPI:5540 Geographic Visualization
<b>BAIS:6130 Applied Optimization</b>	ISE:3600/STAT:3620 Quality Control
<b>BAIS:6140 Information Visualization</b>	ISE:4172 Big Data Analytics
<b>BAIS:6150 Financial Analytics</b>	JMC:3640 Data Journalism
<b>BAIS:6170 Directed Reading</b>	MATH:4250 Intro to Financial Mathematics
<b>BAIS:6180 Healthcare Analytics</b>	ME:4150 Artificial Intelligence in Engineering
<b>BAIS:6190 Forecasting</b>	MKTG:9165 Digital Marketing Analytics
<b>BAIS:6210 Data Leadership and Management</b>	MKTG:9310 Marketing Analytics
<b>BAIS:9210 Intro to Modeling with VBA</b>	POLI:3001 Hawkeye Poll
ACCT:9170 Advanced Accounting Analytics	PSQF:6209 Survey Research and Design
BIOS:5120/STAT:5610 Regression Modeling & ANOVA in Health Sciences	PSQF:6243 Intermediate Statistical Methods
BIOS:5310/STAT:5810 Research Data Management	PSQF:6246 Design of Experiments
CS:3210 Programming Languages and Tools	PSQF:6250 Computer Packages for Statistical Analysis (do not recommend if completed BAIS:6060)
CS:4420 Artificial Intelligence	STAT:4100 Mathematical Statistics I
CS:4470 Health Data Analytics	STAT:4101 Mathematical Statistics II
CS:5110 Intro to Informatics	STAT:4200 Statistical Methods and Computing
ECE: 5490 Multi-Dimensional Image Analysis Tools	STAT:4540 Statistical Learning
ECON:4800 Econometric Analysis	STAT:4560 Statistics for Risk Modeling
ECON:5800 Econometrics	STAT:5100 Statistical Inference I
EPID:5200 Principles of Public Health Informatics	STAT:5200 Applied Statistics I
FIN:9160 Quantitative Finance and Deep Learning	STAT:5400 Computing in Statistics

**Pre-approved business and research/PhD oriented electives list on the next page**

# M.S. in Business Analytics (Career)

## Research/PhD oriented

CS:5430 Machine Learning  
CS:5980 Deep Learning  
ECE:5450 Machine Learning  
ECON:5805 Statistics for Economics  
ISE:6380 Deep Learning  
ISE:6720 Nonlinear Optimization  
ISE:6760 Pattern Recognition for Financial Data  
ISE:6780 Financial Engineering and Optimization  
ME:4111 Scientific Computing and Machine Learning  
STAT:6560 Applied Time Series Analysis  
STAT:7400 Computer Intensive Statistics

## Business Courses

MSBA Career students may take up to 6 hours of electives from the following list of approved non-analytics business electives. Additional electives in Finance are available for those that complete MBA:8180 or have an undergraduate finance degree with a 3.33 major GPA; contact your advisor.

### ***No pre-requisites***

ENTR:9800 Entrep: Advanced Business Planning  
MBA:8140 Corporate Financial Reporting (Fall)  
MBA:8170 International Environment of the Firm (Fall)  
MBA:8180 Managerial Finance (Fall)  
MGMT:3200 Individuals, Teams and Organizations  
MGMT:9150 Nonprofit Organizational Effectiveness I  
MGMT:9160 Nonprofit Org Effectiveness II  
PSQF:5165 Intro to Program and Project Evaluation