

M.S. in Business Analytics (Career)

Plan of Study, Effective for Entering Class Fall 2021

Fall (13 s.h.)

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 Professional Development and Business Acumen	1
Elective 1 (see next page for list of approved electives)	3

Spring (14 s.h.)

BAIS:9110 Advanced Analytics	3
BAIS:6070 Data Science	3
Elective 2	3
Elective 3	3
BAIS:9400 Professional Development and Business Acumen (repeated)	1
MBA:8130:0701 Business Communication	1

Fall (13 s.h.)

BAIS:6120 Analytics Experience	3
Elective 4	3
Elective 5	3
Elective 6	3
MBA:8130:0702 Business Communication (repeated)	1

Total: 40 semester hours

Registering: Log into MyUI (<https://myui.uiowa.edu/my-ui/home.page>) with your HawkID and password. Click on *Courses/Registration* in the yellow bar at the top and search for courses. Click the *Enroll* button to register.

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

Waiver of 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:

- MSCI/BAIS:2800 Business Analytics or ECON:2800 AND
- Another class that uses Excel and statistics, including MKTG:3100 Marketing Research, ACCT:4100 Auditing, MSCI/BAIS:3500 Data Mining, MSCI/BAIS:3800 Optimization and Simulation Modeling, or ECON:3355 Econ and Business Forecasting. Request approval for additional coursework from advisor.

Tippie Business Analytics and Information Systems (BAIS) undergraduate majors may be able to waive the following:

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

Students from other colleges or majors, please contact your advisor to inquire about a possible waiver.

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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:3540 Intro to Geographic Visualization
BAIS:6040 Data Programming in Python*	GEOG:4150 Health and Environment: GIS Applications
BAIS:6060 Data Programming in R*	GEOG:4580 Intro to Geographic Databases
BAIS:6100 Text Analytics	GEOG/IGPI:5055 Geospatial Programming
BAIS:6105 Social Analytics	GEOG/IGPI:5540 Geographic Visualization
BAIS:6110 Big Data Management and Analytics	ISE:3600/STAT:3620 Quality Control
BAIS:6130 Applied Optimization	ISE:4172 Big Data Analytics
BAIS:6140 Information Visualization	JMC:3640 Data Journalism
BAIS:6150 Financial Analytics	MATH:4250 Intro to Financial Mathematics
BAIS:6170 Directed Readings	ME:4150 Artificial Intelligence in Engineering
BAIS:6180 Healthcare Analytics	MKTG:9165 Digital Marketing Analytics
BAIS:6190 Forecasting	MKTG:9310 Marketing Analytics
BAIS:6210 Data Leadership and Management	POLI:3001 Hawkeye Poll
BAIS:9210 Intro to Modeling with VBA	PSQF:6209 Survey Research and Design
ACCT:9170 Advanced Accounting Analytics	PSQF:6243 Intermediate Statistical Methods
BIOS:5120/STAT:5610 Regression Modeling & ANOVA in Health Sciences	PSQF:6246 Design of Experiments
BIOS:5310/STAT:5810 Research Data Management	PSQF:6250 Computer Packages for Statistical Analysis (do not recommend if completed BAIS:6060)
CS:3210 Programming Languages and Tools	STAT:4100 Mathematical Statistics I
CS:4420 Artificial Intelligence	STAT:4101 Mathematical Statistics II
CS:4470 Health Data Analytics	STAT:4200 Statistical Methods and Computing
CS:5110 Intro to Informatics	STAT:4540 Statistical Learning
ECE:5490 Multi-Dimensional Image Analysis Tools	STAT:4560 Statistics for Risk Modeling
ECON:4800 Econometric Analysis	STAT:5100 Statistical Inference I
ECON:5800 Econometrics	STAT:5200 Applied Statistics I
EPID:5200 Principles of Public Health Informatics	STAT:5400 Computing in Statistics
FIN:9160 Quantitative Finance and Deep Learning	URP:6200/PBAF:6200 Analytic Methods in Planning I
GEOG:3520 GIS for Environmental Studies	URP:6225 Applied GIS for Planners

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

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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:4325 Team Project Management
MGMT:9150 Nonprofit Organizational Effectiveness I
MGMT:9160 Nonprofit Org Effectiveness II
PSQF:5165 Intro to Program and Project Evaluation