

MS in Analytics

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A STEM degree – CIP Code 52.1301 – [learn more](#) (last updated 8/30/2020)

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For further information go to: <http://www.american.edu/kogod/graduate/ms-anlt.cfm>

Curriculum overview: <http://fs2.american.edu/alberto/www/analytics/msanalytics.pdf>

Analytics Resources: <http://fs2.american.edu/alberto/www/analytics/>

#14 ranking: <https://fortune.com/education/business/best-online-masters-in-business-analytics/>

MS in Analytics Modular Curriculum (33 credit hours)

KSB 620 & 621 Capstone Experience Practicum (2 x 1.5 cr)

Functional Specialization (12 cr)

Business
Administration

Bio &
Computational
Statistics

Marketing

IT Consulting

Data
Science

Accounting
Forensics

Accounting
Analytics

Financial
Quantitative Analysis

Advanced
Analytics

Analytics Core (9 cr)

ITEC 610
Managerial Statistics

ITEC 620 Business Insights
Through Analytics

ITEC 621
Predictive Analytics

ITEC 616
Managing the Digital
Organization

IT Core (9 cr)
ITEC 670
Database & Big Data

ITEC 660
Business Intelligence

Tools:
KSB 999 R;
ITEC 600 Python

Required (red outline) and electives (blue outline) for Analytics Certificate 12 cr.

Learning Objectives

To give students the knowledge and skills to: (1) formulate an organizational problem; (2) identify the data necessary to analyze the problem; (3) select the most appropriate methods and tools to conduct the analysis; and (4) make data-driven decisions based on the results of this analysis. The program was designed to provide a framework in which students are not only trained on quantitative and analytical skills but also on a functional domain of specialization to enhance students' ability to better understand how to conduct analysis in that domain.

MS in Analytics – Curriculum Overview (33 credit hours)

Capstone Experience

KSB 620 & 621 Analytics Practicums – 3 credits (2 x 1.5 credits each semester)

Analytics Core – 9 credits (must be completed in 1st. year)

- **ITEC 610 Applied Managerial Statistics** (required for Analytics certificate)
- **ITEC 620 Business Insights through Analytics** (required for Analytics certificate)
- **ITEC 621 Predictive Analytics** (required for Analytics certificate)

IT Core – 9 credits

- **ITEC 616 Management Information Systems**
- **ITEC 660 Business Intelligence** (elective for Analytics certificate)
- **ITEC 670 Database and Big Data** (elective for Analytics certificate)

Functional Specialization – choose 12 credits from

- **Advanced Analytics & IT Consulting:** ITEC 643 Project Management; ITEC 630 Business Process Analysis; ITEC 623/MGMT 623 Organizational and Social Network Analytics; ITEC/SIS 724 Big Data Text Analytics; ITEC 600 Programming for Business Analytics (Python); ITEC 666 Cyber Security Risk Management; ITEC 667 Cyber Security Governance; ITEC 668 Cybersecurity Analytics
- **Accounting Forensics:** 12 credits – 9 credits from ACCT-551 Forensic Accounting; ACCT-677 Financial Statement Analysis; ACCT-680 Advanced Forensic Accounting & Fraud Detection; plus 3 credits from ACCT-549 Contemporary Assurance & Audit Services; ACCT-550 Accounting Information Systems; ACCT-600 Ethics in Business & Accounting; ACCT-607 Financial Accounting ; ACCT-760 Advanced Auditing & Professional Practice; FIN 614 Financial Management; and FIN 630 Financial Analysis of the Firm: Concepts and Applications.
- **Quantitative Financial Analysis I:** 12 credits from FIN 605 Managerial Economics; FIN 614 Financial Management; FIN 660 Financial Modeling; FIN 574 Quantitative Methods in Finance
- **Quantitative Financial Analysis II:** 12 credits from FIN 614 Financial Management; FIN 660 Financial Modeling; FIN 665 Quantitative Methods in Finance I; FIN 666 Quantitative Methods in Finance II.
- **Marketing:** 12 credits from MKTG 612 Marketing Management; MKTG 755 Applied Market Segmentation (1.5 cr.); MKTG 561 Customer Relationship Management and Database Marketing; MKTG 741 Digital Marketing (1.5 cr.); MKTG 767 Research for Marketing Decisions
- **Data Science (CAS):** 3 elective credits from Kogod plus 9 credits from STAT 615 Regression; STAT 613 Data Science; STAT 612 Statistical Programming in R; STAT-627 Statistical Machine Learning
- **Biostatistics (CAS):** 3 elective credits from Kogod plus 9 credits from STAT-615 Regression; STAT-620 Advanced Biostatistics (or STAT-524 Data Analysis or STAT-510 Survey Sampling); STAT-520 Multivariate Analysis; STAT-521 Categorical Data Analysis.
- Business Fundamentals courses from Kogod MS programs.
- Other Kogod or AU graduate courses approved by the Program Director or the IT&A Department Chair.

Note: all courses are 3 credits, except where noted.

Analytics Graduate Certificate (12 credits, B or higher grade required in all 4 courses):

- **Required:** ITEC 610, ITEC 620 and ITEC 621
- **Electives:** one of ITEC 660, ITEC 670, ITEC/MGMT 623, ITEC 668, ITEC/SIS 724