Master of Science (MS) in Analytics

Effective January 8, 2018
Master of Science (MS) in Analytics

The Master of Science in Analytics degree program prepares data analytics professionals to work with, understand, and transform data to develop solutions that resolve applied problems while effectively providing insights and communicating results to the organization. Throughout the program, learners develop skills in data sources, statistics, data mining, applied analytics and modeling, leadership, reporting, forecasting, and visualization in order to solve problems within a variety of industry domains. Additionally, learners strengthen their collaboration, communication, presentation, and negotiation skills. Upon successful completion of this degree program, learners are prepared to pursue careers in the diverse field of data analytics.
Capella’s Career Center proactively assists learners and alumni in developing and implementing their unique career management goals. The Career Center staff is committed to helping working adults move forward in their careers.

This degree program is offered in the GuidedPath delivery model.

**Career Information**

**RELATED EMPLOYMENT SETTINGS TO EXPLORE**
- Corporation
- Consulting firm
- Land-based or online college or university
- Community college
- Government—local, state, federal
- Military

**RELATED JOB TITLES TO EXPLORE**
- Business analyst
- Data analyst
- Systems Analyst
- Business Intelligence Developer
- Consultant
- Business Systems Analyst
- Business Intelligence Analyst
- Financial Analyst
- ETL Developer
- Data Architect
- Solutions Architect
- Adjunct or part-time faculty
- Data Scientist
- Research Scientist

**SPECIALIZATION OUTCOMES**
- Apply foundational theories of the field
- Formulate organizational problems to be solved using analytics to provide actionable alternatives
- Represent data and information through effective reporting and visual analytics
- Develop models using both structured and unstructured data from multiple sources
- Select and use appropriate analytic tools
- Apply ethical considerations to the analysis and presentation of results
- Apply communication skills to collaborate with stakeholders

*These are examples intended to serve as a general guide. Because many factors determine what position an individual may attain, Capella cannot guarantee that a graduate will secure any specific job title.*
Curriculum

- 12 required courses
- Total program credits: 48 quarter credits

**TRANSFER CREDIT**
A maximum of 12 quarter credits from previous graduate coursework may be transferred and applied to your program’s requirements.

**ADMISSION REQUIREMENTS**
Bachelor’s degree from an institution accredited by a U.S. Department of Education-recognized accrediting agency or an internationally recognized institution

Grade point average of 2.3 or higher on a 4.0 scale

**CORE COURSES**
- ANLT5002 Basic Applications of Analytics ............................. 4 quarter credits
- ANLT5010 Foundations in Analytics ................................. 4 quarter credits
- ANLT5020* Data Sources for Analytics ............................. 4 quarter credits
- ANLT5030* Statistical Methods in Analytics ..................... 4 quarter credits
- ANLT5040 Leadership for Analytics ................................. 4 quarter credits
- ANLT5050* Concepts of Data Mining ................................. 4 quarter credits
- ANLT5060 Applied Forecasting ......................................... 4 quarter credits
- ANLT5070* Text Mining .................................................. 4 quarter credits
- ANLT5080* Advanced Analytics and Modeling ................. 4 quarter credits
- ANLT5090* Reporting Solutions with Analytics ................. 4 quarter credits
- ANLT5100* Visual Analytics ........................................... 4 quarter credits

Taken during the learner’s final quarter:
- ANLT5900* Capstone in Analytics ................................. 4 quarter credits

*Denotes courses that have prerequisite(s). Refer to the course descriptions for further details.

The courses in this program may require live web conferencing activities and/or learner audio/video recordings. Learners who require assistive technology or alternative communication methods to participate in these activities should contact Disability Services to request accommodations.
Core Course Descriptions

ANLT5002  Basic Applications of Analytics  4 QUARTER CREDITS
In this course, learners develop the skills needed to apply the early aspects of the life cycle of analytics. Learners review the different types of data sources and explore various data models and algorithms. Learners also use basic tools to complete an analysis and collaborate within teams to evaluate case studies and explore ways in which stakeholder's needs are met through data intelligence. **Must be taken during the first quarter by learners who have been admitted to the MS in Analytics degree program. Cannot be fulfilled by transfer or prior learning assessment.**

ANLT5010  Foundations in Analytics  4 QUARTER CREDITS
Learners in this course apply data management fundamentals to data models. Learners examine the concepts of data mining, ETLs, and data warehouses and also evaluate applied analytics in professional domains such as finance, marketing, and health care.

ANLT5020  Data Sources for Analytics  4 QUARTER CREDITS
In this course, learners explain database methodologies including relational databases, flat files, dimensional modeling, RSS feeds, and multi-dimensional modeling. Learners examine the impact of data quality on analytics and apply ETL techniques and processes. Finally, learners evaluate the application of data warehouses, data marts, and multi-dimensional cubes to decision-making and action. **Prerequisite(s): ANLT5010.**

ANLT5030  Statistical Methods in Analytics  4 QUARTER CREDITS
In this course, learners study the collection, organization, presentation, analysis, and interpretation of data using statistical methods. Learners practice using appropriate tools to obtain a result using statistical methods and collaborate with team members to compare processes, techniques, and conclusions to understand various perspectives. **Prerequisite(s): Completion of or concurrent registration in ANLT5020.**

ANLT5040  Leadership for Analytics  4 QUARTER CREDITS
Learners in this course develop and demonstrate their skill in the role of leadership in analytics and explore change management leadership theories and models as they relate to the field of analytics. Learners examine the ethical issues and practices of the analytics field to gain an understanding of how personal ethical frameworks shape the decision-making process. Learners also evaluate project management skills needed for team performance for successful analytic projects.

ANLT5050  Concepts of Data Mining  4 QUARTER CREDITS
In this course, learners develop their skills in creating a data model. Learners apply data mining algorithms, models, and data mining modeling techniques to test, fit, and implement an algorithm and/or model with appropriate tools. Learners practice interpreting results to find an application for those results. Finally, learners apply control, feedback, and evaluation approaches to enhance, continue, or retire the algorithm or model using big data. **Prerequisite(s): ANLT5030. Graduate certificate learners in Advanced Analytics Using SAS® are exempt from this prerequisite.**
Specialization Course Descriptions

ANLT5060  Applied Forecasting  4 QUARTER CREDITS
In this course, learners evaluate forecast model outcomes to solve organizational problems. Learners examine the impact of time and data latency on forecasting, and practice identifying patterns in the output of forecast models. Learners also apply forecasting techniques in their communication with stakeholders.

ANLT5070  Text Mining  4 QUARTER CREDITS
Learners in this course gain an understanding of the early stages of text mining. Learners examine document management practices, text-scraping techniques, and various methods for modeling their findings as they solve text-based mining problems. **Prerequisite(s):** ANLT5030. **Graduate certificate learners in Advanced Analytics Using SAS® are exempt from this prerequisite.**

ANLT5080  Advanced Analytics and Modeling  4 QUARTER CREDITS
Learners in this course demonstrate advanced practice in applying the analytic life cycle. Learners examine approaches to visual analytics and are introduced to geospatial data techniques. Learners also apply their analytic skills to current organizational problems and apply analytic solution scoring and project management skills for effective team performance. **Prerequisite(s):** ANLT5050.

ANLT5090  Reporting Solutions with Analytics  4 QUARTER CREDITS
In this course, learners examine reporting solutions that use analytics. Learners analyze, select, and apply reporting solutions to fit an organizational need and evaluate different reporting frameworks. **Prerequisite(s):** ANLT5030.

ANLT5100  Visual Analytics  4 QUARTER CREDITS
In this course, learners articulate the value of visualization to telling the analytic story to stakeholders. Learners explore the appropriate presentation of types of data and apply best practices for the design of effective visualizations. Learners also develop skills for presenting data to stakeholders in a succinct and relevant manner. **Prerequisite(s):** ANLT5030. **Graduate certificate learners in Advanced Analytics Using SAS® are exempt from this prerequisite.**

Capstone Course Description

ANLT5900  Capstone in Analytics  4 QUARTER CREDITS
This is an integrative course for learners in the MS in Analytics degree program. Learners synthesize and integrate the knowledge, competencies, and skills acquired throughout the program by developing and implementing a final project that demonstrates practical application of program content. **For MS in Analytics learners only. Must be taken during the learner’s final quarter. Prerequisite(s): Completion of all required coursework. Cannot be fulfilled by transfer or prior learning assessment.**
Recommended Course Sequence

This recommended course sequence assumes learners take two courses per quarter. Some learners elect to take fewer or more based on workload and the amount of time available for graduate study.

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<thead>
<tr>
<th>YEAR 1</th>
<th>COURSES</th>
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<tbody>
<tr>
<td>Q1</td>
<td>ANLT5002 Basic Applications of Analytics</td>
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<td>Q2</td>
<td>ANLT5010 Foundations in Analytics</td>
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<td>ANLT5020 Data Sources for Analytics</td>
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<td>Q3</td>
<td>ANLT5030 Statistical Methods in Analytics</td>
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<td>ANLT5040 Leadership for Analytics</td>
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<td>Q4</td>
<td>ANLT5050 Concepts of Data Mining</td>
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<td>ANLT5060 Applied Forecasting</td>
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<tr>
<th>YEAR 2</th>
<th>COURSES</th>
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<td>Q5</td>
<td>ANLT5070 Text Mining</td>
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<td></td>
<td>ANLT5080 Advanced Analytics and Modeling</td>
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<td>Q6</td>
<td>ANLT5090 Reporting Solutions with Analytics</td>
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<td>ANLT5100 Visual Analytics</td>
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<td>Q7</td>
<td>ANLT5900 Capstone in Analytics</td>
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Tuition and Fees

This tuition estimate is effective July 10, 2017, and is subject to change. For current pricing, visit the Capella University website at www.capella.edu.

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<th>TUITION/FEE</th>
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<tbody>
<tr>
<td>Tuition per credit</td>
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<td>Resource kit per quarter</td>
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Financial Aid

Capella University offers assistance to learners who qualify and would like to secure educational funding to help finance their academic program. A number of options are available, given the diverse needs and backgrounds of prospective learners. Options include:

- Federal Direct Stafford Loan Program
- Federal Direct PLUS Loan Program
- Non-federal loans through preferred lenders and financial institutions
- Capella scholarships
- External scholarships
- Veterans’ educational benefits and U.S. armed forces discounts
- Corporate and higher education alliances
- Employer tuition reimbursement

Regarding loan programs, interest rates for Stafford student loans are low compared to other types of consumer loans, and repayment can be deferred until after graduation. In compliance with federal and state laws, Capella University has established policies for all learners regarding satisfactory academic progress, which is necessary for financial aid eligibility.
Academic Leadership

Rhonda Capron, EdD  
Dean
Dr. Rhonda Capron is an accomplished leader with remarkable business acumen, extensive academic experience and professional relevance within the confluence of today’s transformative marketplace. She brings a unique blend of background and experience to Capella as a seasoned executive and higher education leader with more than 15 years of experience successfully leading strategic initiatives and operations within high-tech businesses. She also has 10 years in higher education, including extensive, hands-on experience teaching; faculty and staff leadership; academic programming; curriculum development; and strategic planning. Dr. Capron joined Capella in 2016. She was previously the academic dean of the School of Business at University of Phoenix. Prior to that position, she held a number of academic leadership roles at William Jessup University in Rocklin, California. In addition she has an extensive background in both the business sector and the military. Rhonda was vice president of support services and software as a service at Oracle Corporation, and she served as the deputy director for operations within the Departments of Army and Energy.

Bill Dafnis, PhD  
Associate Dean
Dr. Bill Dafnis is the associate dean of technology in Capella University’s School of Business and Technology and faculty chair for undergraduate technology. Bill joined Capella in 2014 to serve as faculty chair in the ABET-accredited BS in IT program. Prior to joining Capella, Bill served in faculty and academic leadership roles at other academic institutions. Preceding his academic career, Bill traversed a distinguished 20-year profession with the Chicago-based media conglomerate Tribune Company in leadership roles inclusive of information technology, project management, and operations management. Bill holds a PhD in Information Systems from Nova Southeastern University, Master of Science in Information Technology with a security focus from Carnegie Mellon University, Master of Business Administration from Lake Forest College, and Bachelor of Arts from the University of Illinois and is certified as a Project Management Professional (PMP). His research interests include the intersection of disruptive change and innovation planning, cloud computing economic models, business process modeling, project management, and information security.

Melissa Zgola, MS  
Faculty Chair
Melissa Zgola joined Capella University in 2007 as an adjunct faculty member for the School of Technology and became a core faculty member in 2008, teaching courses in networking technology and software architecture. In 2012, she was named faculty chair for the Bachelor of Science in Information Technology program in the School of Business and Technology and served in that role until 2014 when she became faculty chair for the Master of Science in Information Systems and Technology Management and the MS in Analytics programs. Prior to joining Capella, Melissa spent several years as an online facilitator, instructor, and program director with The Art Institute Online, the Pittsburgh Technical Institute and ITT Technical Institute. She also served as an engineering technician for the Department of Labor, and senior system analyst for the University of Pittsburgh. She holds a BA in Psychology, and an MA in Counseling from West Virginia University, and an MS in Information Science from the University of Pittsburgh.
Move Forward with Capella University

WORKING SCHOLARS
Capella provides an online, flexible learning environment for working adults who are also determined scholars. That connection between academic and professional work infuses the entire Capella experience—from the faculty we recruit to the course projects you complete. The theories discussed in the courseroom are designed to develop working knowledge for everyday situations.

AN ACCREDITED UNIVERSITY
Our accreditation* is an assurance to students, employers, and the public that Capella University meets established standards for quality of faculty, curriculum, and learner services. It is also an important factor in the ability to transfer credits among higher education institutions. Regional accreditation, the type held by Capella, is the most common type for major public, state, and private institutions in the United States.

VALUING YOUR KNOWLEDGE AND EXPERIENCE
Adults bring a wealth of experience and learning to their education. Capella courses are designed to bring out your perspectives just as you gain from others’ ideas. Your knowledge can also be worth time and money: An enrollment counselor can help you estimate how much of your prior learning may apply toward your Capella degree program.

Important Information about the educational debt, earnings, and completion rates of students who attended this program: http://capellaresults.com/assets/includes/gainfulemployment/cta/GE/GE15/masters/MS_Analytics_gedt.html.

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1.888.CAPELLA (227.3552)
www.capella.edu

*ACCREDITATION
Capella University is accredited by the Higher Learning Commission.

HIGHER LEARNING COMMISSION
https://www.hlcommission.org
800.621.7440

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