The Institute for Advanced Analytics prepares data savvy individuals for leadership in a digital world. Our mission is to produce the world’s finest analytical practitioners—data scientists, analysts, and consultants—who have mastered complex methods for large-scale data modeling, who have a passion for solving challenging problems through teamwork, who are guided by intellectual curiosity, honesty and integrity, and who strive to attain the highest level of professionalism through continuous self-improvement.
Today, data is everywhere. But there’s a scarcity of talent with the skills to make sense of it and create value.

The Master of Science in Analytics is a professional degree that focuses on the methods, tools, and applications of data science. First proposed in April 2006 and authorized by the governing board of the University of North Carolina System in February 2007, it is the nation’s first full-fledged degree designed to equip students with the skills needed to address the proliferation of data in the 21st Century.

A new interdisciplinary academic unit — the Institute for Advanced Analytics — was established at NC State in 2007 to oversee the program.
As the need of analytics becomes more widespread, there is mounting demand for—and a growing shortage of—professionals with the relevant data skills coupled with an understanding of how the techniques are applied to business and the variety of critical tasks facing decision-makers.
The Master of Science in Analytics aims to:

- Enrich students with a challenging learning experience;
- Give them relevant skills valued by employers;
- Provide a path to rapid degree completion;
- Be affordable with a solid return on investment.

And ultimately...

- Open doors to professional employment at graduation.
Steve ('14) and Ryan ('12)
Preston, Doug, Nicole, Shannon and Pranav
Class of 2017 Practicum Team
eBay
New York City
The MSA is a comprehensive education that...

- Develops the necessary technical skills;
- Enhances the ability to work effectively in teams;
- Strengthens communication and problem-solving capabilities;
- Provides hands-on experience with real world data using industry standard analytical tools;

And, ultimately...

- Produce the kind of productive analytical professionals employers want most to hire.
As the country’s first full-fledged Analytics degree, the MSA was created literally from scratch—an integrated curriculum with a unique blend of statistics, applied mathematics, computer science and business disciplines. It is a dynamic curriculum that continually evolves to meet the need.
The MSA is designed to be...

**Intensive** – accelerating the learning curve through the intensity that comes from condensing 2-years of graduate study into the shortest possible duration;

**Interactive** – leveraging peer-to-peer learning with teamwork threaded throughout the entire curriculum;

**Immersive** – learning by doing, by engaging in practical problems from the real world, and being totally immersed in the subject.

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**Francis**
Class of 2016
B.A., Economics; Mathematics
Vanderbilt University, 2013
Senior Data & Analytics Consultant at EY

**Sarah**
Class of 2016
B.S., Clinical Laboratory Science
UNC-Chapel Hill, 2012
Senior Associate Analytical Consultant at SAS

**Ahdieh**
Class of 2015
B.S., Business Management
Babson College, 2012
Market Planning Analyst at Netflix

**Chelsi**
Class of 2016
B.S., Mathematics
Claflin College, 2014
AVP, Operations Research Analyst at Bank of America
The MSA is...

- 10-months of full-time residential study (Mon.-Fri. / 9-to-5);
- a fully integrated curriculum with its own faculty;
- limited to 120 students, split into two 60-student sections;
- taught as a cohort, with all classes restricted to students in the program;
- delivered in a modern 30,000 sq. ft. facility for the exclusive use of our students;
- a professional degree aimed at placing its students in employment upon graduation.

The MSA is not...

- a menu of core and elective courses;
- overly theoretical in its focus;
- a research or teaching apprenticeship;
- intended to be a prelude to a Ph.D.;
- a master’s degree in business, computer science or statistics, in disguise;
- a day longer than necessary to accomplish its goals.
The MSA is a single integrated curriculum aimed at acquiring practical skills that can be applied to real-world problems, drawing upon:

- applied mathematics
- statistics
- computer science
- econometrics
- operations research
- marketing science
- communications

Dusty
Class of 2017
B.S., Civil Engineering
NC State University, 2013

Data Scientist at Cognizant

Rocky
Class of 2017
B.S.B.A., Business Administration; Economics UNC–Chapel Hill, 2013

Senior Consultant at EY
The MSA Advantage:

- Hone your skills working on large-scale (gigabyte-to-terabyte) data problems from real world organizations;
- Use industry standard software tools and obtain professional certifications while completing your degree;
- Learn in teams that emulates the reality of today’s workplace and provide an opportunity to develop leadership potential;
- Individualized coaching guides continuous self-improvement.

Manuel, Christopher, Bailey, Jennifer and Kevin
Class of 2016 Practicum Team
Cargill
Minneapolis, Minnesota
Experiential Learning: The Practicum

- Work in a team of 4-5 individuals performing substantive work over 8-months;
- Tackle real-world problems with data provided by sponsoring organizations (under confidentiality);
- Learn the end-to-end process of how to transform data into valuable insights;
- Prepare your final report and presentation for an executive audience.

Tori, Alec, Polly, Shreye and Liping
Class of 2018 Practicum Team

Museum of Fine Arts
Boston, Massachusetts
Holden, Ryan, Catherine, Cecilia, and Kosta
Class of 2017 Practicum Team
B2W
Rio de Janeiro, Brazil
Since its inception, the Institute’s students have taken on 156 projects from 110 sponsors representing virtually every industry sector.

- Advertising
- Agriculture
- Airlines
- Asset Management
- Banking
- Chemicals
- Consumer Products
- E-Commerce
- Energy
- Entertainment
- Financial Services
- Healthcare
- Heavy Machinery
- Hospitality
- Insurance
- Intelligence
- Manufacturing
- National Security
- Non-Profits
- Pharmaceuticals
- Publishing
- Retail
- Social Media
- Software
- Sports
- Telecommunications
- Textiles and Apparel
- Transportation

Michael, Ashley, Alex, Cindy and Daniel
Class of 2018 Practicum Team

Revenue Management Solutions
Tampa, Florida
Class of 2018 Practicum Team

AMC Theatres (Leawood, Kansas)
Asurion (Nashville, Tennessee)
Central Intelligence Agency (McLean, Virginia)
Chick-fil-A (Atlanta, Georgia)
Direct ChassisLink (Charlotte, North Carolina)
Disney (Orlando, Florida)
Duke Health (Durham, North Carolina)
Elevate (Ft. Worth, Texas)
General Motors (Detroit, Michigan)
M&T Bank (Buffalo, New York)
Museum of Fine Arts, Boston (Massachusetts)
Museum of Fine Arts, Houston (Texas)

National Council on Compensation Insurance (Boca Raton, Florida)
Piedmont Health (Carrboro, North Carolina)
ProMetrics (King of Prussia, Pennsylvania)
Putnam Investments (Boston, Massachusetts)
Red Hat (Raleigh, North Carolina)
Revenue Management Solutions (Tampa, Florida)
The Home Depot (Atlanta, Georgia)
Trillium Health (Greenville, North Carolina)
Visionist (Columbia, Maryland)
Volvo Trucks (Greensboro, North Carolina)
Class of 2016 students run in Krispy Kreme Challenge to raise money for the North Carolina Children’s Hospital.
MSA graduates are in high demand...

- 12 consecutive years over 90% employment at graduation;
- 95% were employed at graduation in 2019, and 99% within 30-days;
- Candidates averaged 12 initial interviews and 2-3 job offers;
- Many sectors of the economy are hiring;
- Employers vary widely, from new ventures to global enterprises.

Ruth, Chris, Anderson and Eliza
Class of 2018 Practicum Team
Visionist
Columbia, Maryland
LEADING EMPLOYERS OF MSA GRADUATES

- Accenture Federal Services
- Ally Financial
- Amazon
- Ankura
- Asurion
- Bain & Company
- Bank of America
- BB&T
- Blue Cross NC
- Capital One
- Cigna
- Citi
- Community Care of NC
- Deloitte
- Elder Research
- Elevate
- EY
- Fidelity Investments
- Fifth Third Bank
- Google
- GSK
- JPMorgan Chase
- Lowe’s Companies
- M&T Bank
- Putnam Investments
- Red Hat
- Red Ventures
- RTI International
- SAS
- Slalom Consulting
- The Home Depot
- The Walt Disney Company
- US Federal Government
- Visionist
- Wells Fargo
- Zencos

Barrett, Jennifer, Elliott, Amanda and Idrees
Class of 2018 Practicum Team
General Motors
Detroit, Michigan
MSA graduates are highly valued...

- Average base starting salary in 2019: $98,500
  - $109,500 for candidates for 3 or more years of professional experience prior to entry
  - $92,400 for candidates with no work experience prior to entry
- Base salary range: $75,000 to $147,500
- Median signing bonus: $10,000
- ROI payback period: 22 months

Chelsey, Class of 2019
M.Ed., Education, 2014
B.S., Mathematics, 2012
North Dakota State University

Senior Quantitative Analyst
Asurion, Nashville

Greg, Class of 2019
B.A., Economics, 2001
University of North Carolina at Chapel Hill

Assistant VP & Senior Decision Scientist
Fifth Third Bank, Cincinnati
### Class of 2019 by Major Employment Category and Average Base Salary

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Average Base Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Scientist</td>
<td>34%</td>
<td>$104,000</td>
</tr>
<tr>
<td>Analyst</td>
<td>34%</td>
<td>$90,500</td>
</tr>
<tr>
<td>Consultant</td>
<td>31%</td>
<td>$91,000</td>
</tr>
<tr>
<td>Manager</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

#### Julia
- Class of 2016
- B.S.P.H., Environmental Health Sciences, UNC Chapel Hill, 2015
- Quantitative Analyst at Arcadia Power

#### Taylor
- Class of 2016
- M.A., B.S.B.A., Economics; Finance, University of Alabama, 2014
- Solutions Engineer at Cloudera

#### Ryan
- Class of 2016
- B.S., Mechanical Engineering, NC State University, 2015
- Data Scientist at General Motors

#### Jason
- Class of 2016
- M.S., Chemical Engineering, Stanford, 2000
- B.S., Chemical Engineering, Washington University in St. Louis, 1998
- Data Scientist at BCBS of North Carolina
Student Demographics, Education and Employment

Trend in the Number of Graduates

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>'09</th>
<th>'10</th>
<th>'11</th>
<th>'12</th>
<th>'13</th>
<th>'14</th>
<th>'15</th>
<th>'16</th>
<th>'17</th>
<th>'18</th>
<th>'19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>23</td>
<td>35</td>
<td>39</td>
<td>39</td>
<td>38</td>
<td>81</td>
<td>79</td>
<td>86</td>
<td>113</td>
<td>118</td>
<td>111</td>
<td>111</td>
</tr>
</tbody>
</table>

Undergrad Major
- Eng / Science 30%
- Math / Statistics 36%
- Econ / Finance Business 30%
- Other 4%

Highest Degree Earned
- Bachelors 85%
- Masters 14%
- 1% Other

Prior Work Experience
- None 36%
- 1-2 Years 26%
- ≥ 3 Years 38%

Employment
- U.S. 97%
- Other 12%
- Analyst 19%
- Consultant 20%
- Manager 19%
- 3% Other

Data Scientist 29%

Alumni Distribution by Occupation
Trend in Student Enrollment by Country of Origin

64 countries of origin represented since 2008.
Geographic Distribution of Alumni
Jeremiah, Viola, Mirna, Jennifer, and Jonathan
Class of 2016 Practicum Team
Art Gallery of Ontario
Toronto, Canada
Student Satisfaction Survey, Class of 2014 through 2019
(Average score on a 5-point scale, low to high)

**EDUCATION**
4.5
Highly satisfied with the learning experience

**EMPLOYMENT**
4.6
Highly satisfied with choice of employment

**RECOMMEND**
4.8
Highly likely to recommend the MSA to prospective students

Anonymous annual student survey conducted in May (n=556; 90% response rate)
The MSA compares favorably to the top-5 highest ranked MBA programs with similar cohort sizes:

- The MSA out-performed the selected MBA programs on most of 2-dozen key metrics on admissions and placement;
- When ranked alongside MBA programs, the analysis suggests the MSA would fall in a range between 20 and 30 in reputable national rankings;
- The MSA has performed consistently well in over five years of performance benchmarking.
### MSA Benchmarks with Leading MBA Programs

<table>
<thead>
<tr>
<th></th>
<th>MSA</th>
<th>Mean</th>
<th>UW</th>
<th>RICE</th>
<th>ND</th>
<th>GT</th>
<th>OSU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US News Rank (April 2019)</strong></td>
<td>–</td>
<td>–</td>
<td>21</td>
<td>26</td>
<td>26</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td><strong>Enrollment</strong></td>
<td>115</td>
<td>109</td>
<td>125</td>
<td>118</td>
<td>123</td>
<td>86</td>
<td>94</td>
</tr>
<tr>
<td><strong>Number of Applicants</strong></td>
<td>1105</td>
<td>637</td>
<td>934</td>
<td>587</td>
<td>579</td>
<td>495</td>
<td>588</td>
</tr>
<tr>
<td><strong>Acceptance Rate</strong></td>
<td>14%</td>
<td>39%</td>
<td>35%</td>
<td>40%</td>
<td>48%</td>
<td>35%</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Undergraduate GPA</strong></td>
<td>3.59</td>
<td>3.37</td>
<td>3.31</td>
<td>3.32</td>
<td>3.36</td>
<td>3.40</td>
<td>3.44</td>
</tr>
<tr>
<td><strong>% Female Students</strong></td>
<td>40%</td>
<td>32%</td>
<td>38%</td>
<td>32%</td>
<td>27%</td>
<td>31%</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Employed at Graduation</strong></td>
<td>95%</td>
<td>79%</td>
<td>85%</td>
<td>74%</td>
<td>73%</td>
<td>85%</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Average Base Salary ($000)</strong></td>
<td>107</td>
<td>110</td>
<td>118</td>
<td>113</td>
<td>111</td>
<td>112</td>
<td>97</td>
</tr>
<tr>
<td><strong>Reporting Salary Data</strong></td>
<td>95%</td>
<td>77%</td>
<td>83%</td>
<td>77%</td>
<td>74%</td>
<td>83%</td>
<td>67%</td>
</tr>
</tbody>
</table>

MSA = NC State Univ.  
AVG = Average for Top-5 MBA  
ND = Notre Dame  
GT = Georgia Tech  
RICE = Rice University  
WU = Univ. of Washington  
OSU = Ohio State University
The Master of Science in Analytics
by the numbers...

Annual Benchmark Report
http://go.ncsu.edu/msa-benchmarks

Annual Alumni Report
http://go.ncsu.edu/msa-alumni

Annual Employment Report
http://go.ncsu.edu/msa-employment

Annual Admissions Report
http://go.ncsu.edu/msa-admissions

Elizabeth, Sarah, Daniel, Lindsay, Matias and Adam
Class of 2018 Practicum Team
DCLI
Charlotte, North Carolina
Michael Rappa is the founding director of the Institute for Advanced Analytics and a member of the faculty in the Department of Computer Science at North Carolina State University. As head of the Institute, he leads the nation’s first Master of Science in Analytics as its principal architect. Before joining NC State as Distinguished University Professor in 1998, for nine years he was a professor at MIT. Appointed the inaugural Goodnight Director in 2015, his current position is endowed and named in honor of the University’s distinguished alumnus and prominent American business leader Dr. James Goodnight.

About the Director

Jeremy
Class of 2015
B.S., Economics, University of South Dakota–Vermillion, 2014
Predictive Modeler at Great West Casualty Company
South Sioux City, Nebraska
THE INSTITUTE FOR ADVANCED ANALYTICS

Michael Rappa
Goodnight Director and Distinguished University Professor

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Raleigh, NC 27606

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