<table>
<thead>
<tr>
<th>Category</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of graduates:</td>
<td>119</td>
</tr>
<tr>
<td>Number of graduates seeking new employment:</td>
<td>116</td>
</tr>
<tr>
<td>Percent receiving one or more offers of employment:</td>
<td>83%</td>
</tr>
<tr>
<td>Percent employed at graduation:</td>
<td>79%</td>
</tr>
<tr>
<td>Number of U.S. citizens/permanent residents:</td>
<td>103</td>
</tr>
<tr>
<td>Percent receiving one or more offers of employment:</td>
<td>87%</td>
</tr>
<tr>
<td>Percent employed at graduation:</td>
<td>83%</td>
</tr>
<tr>
<td>Average base salary:</td>
<td>$99,800</td>
</tr>
<tr>
<td>Median net increase in earnings:</td>
<td>73%</td>
</tr>
<tr>
<td>Median ROI payback period (in months):</td>
<td>25</td>
</tr>
<tr>
<td>Number of employers interviewing / number on site:</td>
<td>182 / 36</td>
</tr>
<tr>
<td>Median number of initial job interviews per candidate:</td>
<td>11</td>
</tr>
<tr>
<td>Job placements facilitated by the Institute:</td>
<td>94%</td>
</tr>
<tr>
<td>Job placements based in North Carolina:</td>
<td>37%</td>
</tr>
<tr>
<td>Job placements based in U.S.:</td>
<td>100%</td>
</tr>
<tr>
<td>Candidates reporting salary data:</td>
<td>99%</td>
</tr>
</tbody>
</table>

Placement results for Class of 2020 reported upon graduation, May 15, 2020.

For further information about recruiting contact: analytics@ncsu.edu
STATEMENT BY THE DIRECTOR ON THE IMPACT OF THE CORONAVIRUS PANDEMIC

The Institute is deeply committed to achieving the best possible outcomes for its students. Since its first cohort, which graduated in 2008, the Institute has built a solid reputation in terms of the employability of its graduates. Based on surveys within the university and data from comparable programs at other schools, the Institute has done very well. Its decade-long track record for the rate of job placement and average compensation is well above average.

The Institute facilitates job placement for over 90% of its students. The process begins in mid-January each year, when the Institute opens its doors to employers seeking to interview candidates, and culminates (for most students) in March with the acceptance of job offers. The COVID19 pandemic—and the national emergency declared on March 13th that led to the exodus of students from campus—came at precisely the moment to have the greatest detriment on the final stage of job offers and acceptances.

The 2020 placement season began as normal. Students logged 1,200 initial job interviews by mid-March, compared to 1,300 in recent years. It is with respect to job offers where the impact of the pandemic can be seen most clearly. Offers in March were 25% below the three-year average. Be that as it may, students accumulated nearly 200 offers, in total, with an aggregate dollar value of $19.5 million. The average offer (base salary and signing bonus) was $103,000. While the number of job offers was substantial relative to the number of candidates searching, ultimately the spread of offers across the cohort was below the norm: 83% of students garnered one of more offers, compared to 95% in recent years.

As the economic consequences of the pandemic deepened, employers naturally slowed their hiring activities. From mid-March onward, many employers imposed a hiring freeze. Five students reported having a pending offer put on hold to await approval of a senior executive. Three students accepted job offers that were later rescinded; two were quickly rehired by other employers. International students seeking employment under OPT (11% of the cohort) fared less well, with a 54% placement rate versus 83% for citizens and permanent residents. Growing uncertainty over U.S. immigration policy and the future availability of work visas made the situation even more difficult for non-citizens to find employment.

The Institute is disheartened beyond measure by the way the semester ended. Nonetheless, given the circumstances, it is grateful for what was accomplished. All of our students finished the spring semester to earn their degree while remaining in good health. Four out of five secured employment. Half of those employed realized gains in annual income of 70% or more. Average salaries remained strong. At a time when unemployment sky-rocketed to the highest level in modern history, the Institute is gratified by the success of its students.

Uncertainty in labor markets as a result of the pandemic will present challenges in the years ahead. Until the day when a combination of clinical treatment and vaccines mitigate the threat of the coronavirus to human health, we must deal with the new reality. The Institute has already begun to evaluate every aspect of its placement process to see what changes can be made to improve employment outcomes for students in the Class of ’21 and beyond. The Institute’s past success is attributable, in large part, to being proactive and being able to quickly adapt to changing circumstances. The demand for data scientists will continue, even in the most difficult economic times. The Institute is committed to meeting the demand by doing what it does best: producing exceptional talent.

The Institute expresses its gratitude to employers for their steadfast commitment to hiring our students. As for the members of Class of ’20 who continue to search, the Institute will work with them to secure employment in the coming weeks. An addendum to this report will be published in August, 90-days after graduation, to document what is accomplished.
MAJOR TYPES OF POSITIONS AND AVERAGE BASE SALARIES

Manager/Other
5%

Consultant
$95,000
25%

Analyst
$95,800
25%

Data Scientist
$104,600
44%

POSITIONS FILLED

Advanced Analytics Specialist (5) Internal Auditor - Analytics
Associate (3) Manager, Data Analytics and Insights
Associate Consultant (3) Marketing Analytics Specialist
Bioinformatician Quantitative Analytics Specialist
Business Analyst, Data Scientist Senior Analyst (3)
Business Analytics Advisor Senior Analyst, Data Scientist (3)
Business Information Consultant Senior Analyst, Data Science
Client & Business Intelligence Analyst Senior Business Analyst (2)
Consultant (3) Senior Consultant (4)
Data Analyst (9) Senior Data Scientist
Data and Analytics Analyst Senior Manager, Mobile Analytics
Data Engineer Software Developer (2)
Data Science Advisor Software Engineer, Data & Analytics
Data Scientist (31) Staff Consultant (4)
Financial Modeling Analyst (2) Statistician
## COMPENSATION BY EXPERIENCE LEVEL

<table>
<thead>
<tr>
<th></th>
<th>ANNUAL BASE SALARY</th>
<th>SIGNING BONUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Prior Work Experience</td>
</tr>
<tr>
<td></td>
<td></td>
<td>None</td>
</tr>
<tr>
<td>Mean</td>
<td>$99,800</td>
<td>$95,000</td>
</tr>
<tr>
<td>Maximum</td>
<td>$130,000</td>
<td>$115,000</td>
</tr>
<tr>
<td>75th Percentile</td>
<td>$110,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>Median</td>
<td>$98,000</td>
<td>$95,000</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>$90,000</td>
<td>$90,000</td>
</tr>
<tr>
<td>Minimum</td>
<td>$74,400</td>
<td>$74,400</td>
</tr>
<tr>
<td>N</td>
<td>91</td>
<td>49</td>
</tr>
<tr>
<td>% Reporting</td>
<td>99%</td>
<td>54%</td>
</tr>
</tbody>
</table>

Notes: Data with respect to salaries and bonuses are self-reported by graduates (without anonymity) and whenever possible verified by employers in cases where placement is arranged by the Institute (i.e., most candidates). One graduate was on leave from the government and returned to public service. All other job placements are full-time paid positions. Data are made public here to guide prospective students and employers. Annual base salary figures do not include signing bonuses, relocation allowances or other forms of one-time compensation guaranteed upon signing. Conditional job offers (i.e., those requiring security clearance prior to employment) are not included in salary data. As a STEM-qualified degree, international MSA graduates are eligible for Optional Practical Training (OPT). Commencement is typically held on the first Saturday in May, and data are reported each year as of May 15th for consistency.

**DISCLAIMER:** The Institute has a proven track record for placing graduates in the analytics profession, but it does not under any circumstance offer a guarantee of employment upon completion of the degree.
EMPLOYERS

(n = 53; with 40 employers succeeding in hiring one or more candidates)

Aetna CVS
Aktana
Allstate
Ankura*
Asurion
BAE Systems
Bain & Company*
Bank of America
Beghou Consulting*
Cigna*
City of Charlotte, North Carolina
Delta Airlines
Deutsche Bank
DISH Network
Duke Clinical Research Institute
Elder Research*
Elevate Credit*
Elicit Insights
EY*
Federal Reserve Bank of St. Louis
Fidelity Investments*
Fifth Third Bank*
GoDaddy*
Guidehouse*
Hanesbrands
Health Care Service Corporation
JPMorgan Chase*
LearnPlatform
Lowe's Companies
Marathon Petroleum
McKinsey & Company
Mercy Health
MetLife
North Carolina Joint Underwriting Association*
PenFed Credit Union*
Progressive Leasing
Putnam Investments
Q2ebanking
Radiance Technologies
Red Hat*
Red Ventures
RTI International
SAS
Slalom Consulting
State Employees’ Credit Union*
T. Rowe Price
The Home Depot*
Tresata
Truist Financial (formerly BB&T)*
Varonis
Verizon*
Wake Forest Baptist Health
Wells Fargo

**Bold** = employers that succeeded in hiring one or more candidates.
* = employers that hired more than one candidate.
List does not include conditional offers (i.e., those requiring security clearance) made by agencies of the federal government.
DISTRIBUTION OF EMPLOYMENT BY INDUSTRY SECTOR

Financial Services
Consulting
Technology
Retail
Research / Education
Government / Military
Other

Number of Placements

EMPLOYMENT BY GEOGRAPHIC LOCATION
## COMPENSATION BY MAJOR POSITION CATEGORIES

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Data Scientist</th>
<th>Analyst</th>
<th>Consultant</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>$99,800</td>
<td>$104,600</td>
<td>$95,800</td>
<td>$95,000</td>
<td>*</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>$130,000</td>
<td>$130,000</td>
<td>$125,000</td>
<td>$110,000</td>
<td>*</td>
</tr>
<tr>
<td><strong>75th Percentile</strong></td>
<td>$110,000</td>
<td>$115,000</td>
<td>$99,000</td>
<td>$105,000</td>
<td>*</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>$98,000</td>
<td>$105,000</td>
<td>$95,000</td>
<td>$90,000</td>
<td>*</td>
</tr>
<tr>
<td><strong>25th Percentile</strong></td>
<td>$90,000</td>
<td>$95,000</td>
<td>$89,000</td>
<td>$90,000</td>
<td>*</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>$74,400</td>
<td>$80,000</td>
<td>$74,400</td>
<td>$85,000</td>
<td>*</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>91</td>
<td>40</td>
<td>23</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td><strong>% of Total</strong></td>
<td>100%</td>
<td>44%</td>
<td>25%</td>
<td>25%</td>
<td>6%</td>
</tr>
</tbody>
</table>

## COMPENSATION BY AGE AND GENDER

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>Age Brackets</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>20–24</td>
<td>25–29</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>$99,800</td>
<td>$95,600</td>
<td>$103,600</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>$130,000</td>
<td>$130,000</td>
<td>$130,000</td>
</tr>
<tr>
<td><strong>75th Percentile</strong></td>
<td>$110,000</td>
<td>$103,500</td>
<td>$115,000</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>$98,000</td>
<td>$95,000</td>
<td>$105,000</td>
</tr>
<tr>
<td><strong>25th Percentile</strong></td>
<td>$90,000</td>
<td>$90,000</td>
<td>$94,500</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>$74,400</td>
<td>$74,400</td>
<td>$85,000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>91</td>
<td>56</td>
<td>24</td>
</tr>
<tr>
<td><strong>% of Total</strong></td>
<td>100%</td>
<td>62%</td>
<td>26%</td>
</tr>
</tbody>
</table>
HISTORICAL TREND IN MEDIAN BASE STARTING SALARY BY LEVEL OF PRIOR WORK EXPERIENCE

- 8 -
## STUDENT RETURN ON INVESTMENT

<table>
<thead>
<tr>
<th></th>
<th>NC Resident</th>
<th>Non-Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Respondents</td>
<td>28</td>
<td>13</td>
</tr>
<tr>
<td>Pre-MSA Salary Median*</td>
<td>$56,000</td>
<td>$62,000</td>
</tr>
<tr>
<td>(+) Tuition &amp; Fees</td>
<td>$26,500</td>
<td>$46,500</td>
</tr>
<tr>
<td>(-) Signing Bonus</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Total Investment</td>
<td>$72,500</td>
<td>$98,500</td>
</tr>
<tr>
<td>Post MSA Salary Median</td>
<td>$105,000</td>
<td>$100,000</td>
</tr>
<tr>
<td>(-) Pre-MSA Salary</td>
<td>$56,000</td>
<td>$62,000</td>
</tr>
<tr>
<td>Net Salary Increase</td>
<td>$49,000</td>
<td>$38,000</td>
</tr>
<tr>
<td>Payback Period (months)</td>
<td>18</td>
<td>31</td>
</tr>
<tr>
<td>Net Increase in Earnings</td>
<td>88%</td>
<td>61%</td>
</tr>
</tbody>
</table>

Based on graduates with full-time employment prior to program entry. The median net increase in salary for all 41 graduates was $42,500.

## PAYBACK PERIOD CALCULATION

Payback Period (in months) = \[
\frac{(\text{Pre-MSA Salary} + \text{Tuition}) - \text{Signing Bonus}}{\text{Post-MSA Salary} - \text{Pre-MSA Salary}} \times 12
\]

Notes: Respondents provided information about their pre- and post-MSA annual base salaries, signing bonuses, and residency status (which determines tuition payments). The median salary increase was $42,500; all but one respondent reported an increase in salary. The ROI payback period is calculated for each candidate employed by graduation, based on their individual circumstances (residency, tuition, pre- and post-salaries, and signing bonuses).

Students are assumed to forgo one-year of earning, even though the MSA program is only 10-months in duration. Pre-MSA salaries ranged from $33,000 to $165,000. The payback calculation does not take into consideration interest incurred by students who borrow to finance their education.
Note: The net increase in earnings calculation for candidates with no prior work experience is inputed based on the median earnings of candidates with 1-2 years of work experience ($55,000).
### COMPENSATION BY INDUSTRY SECTOR

<table>
<thead>
<tr>
<th></th>
<th>All Sectors</th>
<th>Consulting</th>
<th>Financial</th>
<th>Technology</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean</strong></td>
<td>$99,800</td>
<td>$97,300</td>
<td>$104,700</td>
<td>$99,000</td>
<td>$93,900</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>$130,000</td>
<td>$130,000</td>
<td>$130,000</td>
<td>$125,000</td>
<td>$112,000</td>
</tr>
<tr>
<td><strong>75th Percentile</strong></td>
<td>$110,000</td>
<td>$105,000</td>
<td>$115,000</td>
<td>$110,000</td>
<td>$98,000</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>$98,000</td>
<td>$90,000</td>
<td>$105,000</td>
<td>$100,000</td>
<td>$95,000</td>
</tr>
<tr>
<td><strong>25th Percentile</strong></td>
<td>$90,000</td>
<td>$90,000</td>
<td>$96,250</td>
<td>$90,000</td>
<td>$93,000</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>$74,400</td>
<td>$85,000</td>
<td>$75,000</td>
<td>$80,000</td>
<td>$74,400</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>91</td>
<td>26</td>
<td>34</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td><strong>% of Total</strong></td>
<td>100%</td>
<td>29%</td>
<td>38%</td>
<td>14%</td>
<td>19%</td>
</tr>
</tbody>
</table>

### COMPENSATION BY GEOGRAPHIC REGION

<table>
<thead>
<tr>
<th></th>
<th>North Carolina</th>
<th>U.S. Census Regions Outside North Carolina</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>South</td>
<td>Northeast</td>
</tr>
<tr>
<td><strong>Mean</strong></td>
<td>$96,500</td>
<td>$97,300</td>
</tr>
<tr>
<td><strong>Maximum</strong></td>
<td>$125,000</td>
<td>$127,000</td>
</tr>
<tr>
<td><strong>75th Percentile</strong></td>
<td>$100,000</td>
<td>$105,000</td>
</tr>
<tr>
<td><strong>Median</strong></td>
<td>$95,000</td>
<td>$95,000</td>
</tr>
<tr>
<td><strong>25th Percentile</strong></td>
<td>$90,000</td>
<td>$90,000</td>
</tr>
<tr>
<td><strong>Minimum</strong></td>
<td>$74,400</td>
<td>$75,000</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>33</td>
<td>32</td>
</tr>
<tr>
<td><strong>% of Total</strong></td>
<td>36%</td>
<td>35%</td>
</tr>
</tbody>
</table>
EMPLOYMENT BY RESIDENCY STATUS
PRIOR TO ADMISSION

<table>
<thead>
<tr>
<th></th>
<th>Number of Candidates Employed</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inside North Carolina</td>
<td>Outside North Carolina</td>
</tr>
<tr>
<td>Non-Resident</td>
<td>6%</td>
<td>28%</td>
</tr>
<tr>
<td>NC Resident</td>
<td>30%</td>
<td>35%</td>
</tr>
</tbody>
</table>
| Subtotal       | 37%                          | 63%   | 100%     

PLACEMENT CONCENTRATION AMONG THE TOP-5 AND TOP-10 EMPLOYERS
### RECRUITING TIMETABLE – MSA CLASS OF 2021

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>New cohort of 120 students arrives:</td>
<td>June</td>
</tr>
<tr>
<td>Basic demographic profile of new cohort published:</td>
<td>July 1</td>
</tr>
<tr>
<td>New student roster available on Institute website:</td>
<td>July 15</td>
</tr>
<tr>
<td>Employer information sessions hosted beginning first week of:</td>
<td>September</td>
</tr>
<tr>
<td><strong>Student Profile Book</strong> available:</td>
<td>October 1</td>
</tr>
<tr>
<td><strong>Student Resume Book</strong> sent to employers:</td>
<td>December 1</td>
</tr>
<tr>
<td>On-site interviews begin second week of:</td>
<td>January</td>
</tr>
<tr>
<td>Student placement decision date:</td>
<td>March 1</td>
</tr>
<tr>
<td>Graduation date normally in the first week of:</td>
<td>May</td>
</tr>
<tr>
<td><strong>Employment Report</strong> published:</td>
<td>May 15</td>
</tr>
<tr>
<td>Candidates typically begin employment by the first week of:</td>
<td>June</td>
</tr>
<tr>
<td>Open job positions can be circulated to MSA alumni:</td>
<td>Upon receipt</td>
</tr>
</tbody>
</table>

MSA recruitment is managed entirely by the Institute as a service provided free of charge as a courtesy to employers.

### DISCLAIMER

The Institute has a proven track record for placing graduates in the analytics profession, but it does not under any circumstance offer a guarantee of employment upon degree completion.

### DIRECTOR’S CERTIFICATION

The report of employment outcomes referred to above present fairly, in all material respects, the employment of the Institute’s students at graduation as of May 15, 2020 in conformity with principles generally accepted among universities in the United States of America.

May 16, 2020  
_____________  
Date  

[Signature]  
Dr. Michael Rappa  
Institute Director

Source URL: [http://analytics.ncsu.edu/reports/employment/MSA2020.pdf](http://analytics.ncsu.edu/reports/employment/MSA2020.pdf)