

**Duke University/Fuqua School of  
Business**

**Master of Management Studies:  
Foundations of Business**

**November 2010**

## Table of Contents

<b>Executive Summary</b>	<b>Page 3</b>
<b>Program Overview and Pilot Program Enhancements</b>	<b>Page 4</b>
<b>Admissions Statistics and Trends/Pilot Program</b>	<b>Page 5</b>
<b>Marketing Statistics/Pilot Program</b>	<b>Page 7</b>
<b>Financials/Pilot Program</b>	<b>Page 8</b>
<b>Faculty Assessment/Pilot Program</b>	<b>Page 9</b>
<b>Student Assessment/Pilot Program</b>	<b>Page 10</b>
<b>Employment Statistics/Pilot Program</b>	<b>Page 13</b>
<b>Curriculum and Degree Requirements</b>	<b>Page 15</b>
<b>Graduation and Continuation Requirements</b>	<b>Page 17</b>
<b>Admissions Process</b>	<b>Page 18</b>
<b>Ongoing Program and Learning Outcomes Assessment</b>	<b>Page 20</b>
<b>Appendix A, Admissions Data, Classes of 2010 and 2011</b>	<b>Page 22</b>
<b>Appendix B, MMS Class of 2010 Employment Statistics Report</b>	<b>Page 24</b>
<b>Appendix C, Faculty Teaching in MMS Program 2010 and 2011</b>	<b>Page 28</b>
<b>Appendix D, MMS: Foundations of Business Pilot Proposal Document</b>	<b>Page 33</b>
<b>Appendix E, Learning Outcomes Assessment Data</b>	<b>Page 42</b>
<b>Appendix F, Fuqua Honor Code</b>	<b>Page 44</b>

## **Executive Summary**

In March of 2009, The Fuqua School of Business proposed and received approval for a three-year pilot of a “Foundations of Business” version of its current Master of Management Studies (MMS) degree. Throughout its review, the proposal for the pilot program received strong endorsement at every step of the approval process. The Fuqua faculty endorsed it with a vote of 57-3, it was approved unanimously by the Academic Programs Committee, and the vote was all in favor with one abstention from Academic Council.

The strong endorsement of the pilot has been validated by program results to date, with the degree out-performing expectations in terms of prospective student demand, faculty and student assessment of program quality, hiring by employers, and financial performance. Based on the exceedingly strong results of the pilot program to date, the Fuqua School is bringing forward the Foundations of Business version of the Master of Management Studies program for approval. A copy of the original proposal for the pilot program is found in Appendix D.

### **Metrics for Evaluating Success of the MMS: Foundations of Business Pilot**

The pilot proposal put forth the following metrics for evaluating success. The pilot program has been successful across all metrics, with specifics detailed in the relevant sections of the following proposal.

1. Number of applications generated, by year.
2. Quality of applications generated, by year.
3. Number of students enrolled, by year.
4. Financial assessment, by year.
5. Assessment of student quality from a faculty perspective, by year.
6. Student assessment of program quality, by year.
7. Number of firms recruiting MMS students, by year.
8. Quality of firms recruiting MMS students, by year.
9. Assessment by recruiting firms of MMS student quality, by year.

## **MMS: Foundations of Business Degree Overview and Pilot Program Enhancements**

The Foundations of Business program is intended for persons who wish to obtain certain basic business skills and subject matter knowledge and who lack business experience. In the pilot proposal for the Foundations of Business program, we proposed a curriculum consisting of 12 business courses (a total of 36 credit units) taught over four 6-week terms.<sup>1</sup> While these 12 courses have been successful in providing the business skills required in the inaugural class, our assessment of the program has led us to incorporate three additional foundational courses in quantitative analysis and business communication. The program currently consists of 15 courses and a total of 43 credits. This has resulted in the addition of a fifth term (a Summer Term) to the program. It is this enhanced version of the program which we are bringing forward for approval.

The MMS: Foundations of Business program is a pre-experience masters degree with a focus on technical skills and subject matter knowledge of the sort associated with entry level positions in finance, marketing, consulting, and, possibly, general management. For example, an entry-level financial analyst should understand basic finance and accounting and possess decision modeling and spreadsheet modeling skills. An entry-level consultant, in addition, requires knowledge in strategy, corporate finance, marketing, managerial accounting, market intelligence, decision models and supply chain management. Similarly, an entry level marketing position requires knowledge of marketing analysis and market research, supply chain management, managerial/cost accounting and project finance plus skills in decision modeling and spreadsheet analysis. It is important to note that the MMS degree is not intended to be a substitute for an MBA degree.

---

<sup>1</sup> The standard Fuqua schedule consists of four 6-week terms: Fall I, Fall II, Spring I and Spring II.

## **Admissions Statistics and Trends/Pilot Program**

### **Number of Applications Generated and Number of Students Enrolled, by Year**

Admissions data for the MMS program have been very strong both in terms of quantity and quality for the first two program cohorts. For the Class of 2010, with virtually no time to admit students following approval of the pilot program by Duke in late spring, we matriculated a class of 99 students in two sections. We initially assumed the inaugural class would be made up almost entirely of Duke undergraduate students (and would possibly comprise one section of around 50 students). Word about the program quickly spread via the Internet, however, and we ended up receiving 182 applications which resulted in an initial class of 99 students (two sections). The inaugural class was comprised of students from 38 different undergraduate institutions, including Stanford, Harvard, Yale, Dartmouth, UVA, Tufts, UCLA, USC, and Tsinghua. While 61% of this initial class came from the Duke undergraduate pool, this was well below our assumption that we would be almost 100% Duke undergraduates. The viral manner in which word about the program spread and the quality of the students who ended up matriculating in the inaugural class are both strong indicators of demand for the program.

The positive momentum from the first year accelerated in the second year of the pilot. The number of applications doubled from the first year to the second (to 363 applicants from 182), even though, given the pilot nature of the program, The Fuqua School did not have a marketing plan for the MMS program. We matriculated 101 students in the second year.

Admissions activity for the third year of the pilot is showing a further substantial increase in activity. Applications in progress and submitted applications are significantly ahead of last year. We have 34 completed applications this year, while at the same time last year we only had 5. In addition, close to 400 candidates have logged on to the admissions system to start an application which bodes well for what we expect to see in subsequent application deadlines.

### **Quality of Applications Generated, By Year**

The quality of the MMS matriculants also has exceeded our expectations. In terms of their academics, the current class has an 80% range of undergraduate GPA of 3.0 to 3.72 and an 80% GMAT range of 580 to 740. The GPA range is comparable to that of our Daytime MBA students (2.9 to 3.8). While the GMAT range is slightly below that of our Daytime

students (640 to 750), it still is well above what we anticipated from a student demographic with a large representation of liberal arts majors, with limited quantitative background.

Appendix A contains additional information and statistics for the MMS students admitted during two years of the pilot.

## Marketing Statistics/Pilot Program

While there has been no formal marketing of the MMS: Foundations of Business degree, given its status as a pilot program, the marketing statistics derived from website traffic are as compelling as the admissions statistics in terms of validating interest in the MMS degree. As one can see from the following table, reviewing analytics for the program’s web space, demand for the MMS has increased significantly since the program’s inaugural year and at a pace greater than demand for Fuqua’s other programs. Not only are new visitors up over 100% in a period when the total website experienced a decline in new visitors, but the quality of those visits has improved since all engagement metrics are trending up as well. The number of MMS page views per visit has increased 236%, average time spent on the MMS site has gone up 40%, and visits of over four pages are up 71%. Comparing against the set of Fuqua programs which are also experiencing better quality demand, MMS is clearly outperforming against the set.

		September 2010 (Compared to September 2009)		
		MMS	All Programs	Overall Site
		Site Usage	<b>Visits</b>	5,520
Previous	2,705		51,671	123,022
% Change	104%		-12%	-5%
<b>Page views</b>	31,490		234,736	438,185
Previous	9,374		211,071	401,778
% Change	236%		11%	9%
<b>Pages/Visit</b>	5.7		5.17	3.76
Previous	3.47		4.08	3.27
% Change	64%		27%	15%
<b>Bounce Rate</b>	23.06%		21.29%	44.56%
Previous	28.54%		31.31%	49.17%
% Change	19%		32%	9%
Visitor Loyalty	<b>Avg Time</b>	5:43	6:00	3:40
	Previous	4:05	4:38	3:09
	% Change	40%	29%	16%
	<b>Visit &gt; 1 Min.</b>	57.37%	54.93%	36.50%
	Previous	53.57%	50.40%	35.13%
	% Change	7%	9%	4%
	<b>Visit &gt; 4 pages</b>	41.11%	36.91%	23.04%
	Previous	24.03%	28.37%	19.52%
	% Change	71%	30%	18%

**Fig 1:** MMS program website against its own performance year-over-year, benchmarked against all program web spaces and the school website as a whole.

## Financials/Pilot Program

In the pilot program proposal, the MMS program was projected to breakeven at an enrollment level of 45 students (one section) and to generate a small positive contribution at 90 students (two sections). The program has matriculated in excess of 90 students during both of the years of the pilot, with 99 students in the fall of 2009 and 101 students in the fall of 2010.

The following table shows the financials for the inaugural year of the pilot, projections for the current year, and the estimates from the original proposal. The program operated above breakeven during its initial year, as was expected with the enrollment of 99 students.

Financials for the current year are expected to fall much closer to breakeven, as we have increased faculty and facility expenses tied the addition of the Summer Term, along with slightly increased expenses to support the student services and career management needs of the program.

	<b>Actual 2010</b>	<b>Projected 2011</b>	<b>Proposal Projection (at 90 students)</b>
<b>Revenue</b>			
Tuition	\$3,816,820	\$3,960,210	\$3,462,750
<b>Total Revenue</b>	<b>\$3,816,820</b>	<b>\$3,960,210</b>	<b>\$3,462,750</b>
<b>Expense</b>			
Faculty Cost	\$1,438,144	\$1,797,680	\$1,692,456
Program Dean and Admin	\$194,052	\$194,052	\$200,000
Scholarships	\$339,500	\$293,000	\$346,275
Outreach, including CMC (allocated)	\$125,000	\$125,000	\$50,000
IT (allocated)	\$100,000	\$100,000	\$100,000
Admissions (allocated)	\$150,000	\$200,000	\$100,000
Career Staff and Programming (allocated)	\$450,000	\$500,000	\$150,000
Student Services Staff and Programming	\$252,745	\$282,655	\$250,000
Facility expenses (allocated)	\$175,000	\$220,000	\$125,000
Team Skills Activities	\$135,382	\$157,000	\$200,000
<b>Total Expense</b>	<b>\$3,359,823</b>	<b>\$3,869,387</b>	<b>\$3,213,731</b>
<b>Total Contribution</b>	<b>\$456,997</b>	<b>\$90,823</b>	<b>\$249,019</b>



## **Faculty Assessment/Pilot Program**

Current Fuqua faculty, including a mix of senior tenured faculty, more junior tenure-track faculty, and one adjunct faculty member, have taught all MMS courses during the pilot. Brief biographical data for the faculty who have taught in the program are included in Appendix C. Across the board, the faculty have been overwhelmingly enthusiastic about the quality of the students, the value proposition of the program, and the program's positive impact on Fuqua's portfolio of degree offerings. The following are some unsolicited quotes from the faculty, drawn from emails they have sent to the program associate dean following their terms of teaching in the MMS program.

*"I loved being a part of the program."*

*"The average student did very well and there was no visible left tail. Quite unusual and pleasant to see. A Lake Woebegone moment!"*

*"I thought you might be interested in this note [from an MMS student]. This is why Will and I like teaching these students. They are really nice and "naïve". They really care."*

## **Student Assessment/Pilot Program**

The following quote, taken from an email to the associate dean of the MMS program, reflects the general feeling of the students.

*“One of the aspects of the MMS Program that has been particularly impressive to me has been the academics. While I have taken a full course load of undergraduate classes [at Duke], I can honestly say that the members of [the Fuqua] faculty have been amongst the best. Although the classes have been difficult, they have also been engaging and interesting...my expectations have been far surpassed.”*

### **Course Evaluations**

During each term of the program, the Master of Management Studies students complete surveys rating the quality of the courses across a number of dimensions. There are fifteen questions on the survey. The questions cover a broad range and include (but are not limited to) questions on content, pace, rigor, relevance, and instructor preparation and enthusiasm. Students are also given the opportunity to rank both the course and instructor in terms of overall quality. Specific questions include “How would you rate the overall quality of learning resulting from this course?”, “To what extent have you learned the topics covered in this course?”, “How relevant was this course to your career objectives?”, “The instructor was fair and showed equity in the management of the course”, and “The instructor communicated the course ideas and concepts clearly.”

The survey uses a 7 point Likert-scale, with “7” the most positive ranking choice. When looking at student rankings for all courses taught in the MMS program to-date (across the four terms for the class of 2010 and the two completed terms for the class of 2011), the mean Course rating is 5.84 (median 5.94, standard deviation .56) while the mean Course Instructor rating is 6.17 (median 6.2, standard deviation .56). These ratings compare in an extremely favorable manner with our MBA course ratings and demonstrate very high satisfaction among MMS students with course and instructor quality.

### **Focus Groups with 2010 Graduates**

In addition to the course surveys during the program, Fuqua conducted focus groups with the 2010 graduates of the program, to assess their feelings about the program now that they are working. As the following quotes indicate, the student assessments are exceedingly positive in terms of the efficacy of the program in preparing them for their positions at work.

*“I'm an equity sales analyst in the securities division at Goldman Sachs where I interface with institutional clients like hedge funds and mutual funds to sell equity products for their portfolios. I analyze financial statements daily. I couldn't read a financial statement before the MMS program and my financial accounting course, one of the toughest courses I took at Fuqua. Now, I can review financial statements and am able to tell in a snapshot how healthy a company is, using the tools I learned at Fuqua. The MMS program meant everything to me. It gave me a chance to go into a field that I, previously, didn't know much about. The program gave me base knowledge to build on, and I wouldn't trade the experience for anything in the world.”*

*“I looked at other programs similar to Fuqua's, but it seemed like the academics and training in the MMS program were the most rigorous. I was excited about really learning practical skills that I could use immediately and that would put me in a really good position to excel on the job. I thought I would get all that at Fuqua, and luckily, I was right.”*

*“During my senior year at Yale, I took a critical look at myself and realized that I lacked technical business experience. I never took an accounting class, and I knew nothing about marketing. To be more competitive in the job market, I needed more practical business skills, and so I began looking at the MMS program. The program has made me more well-rounded. It gave me the tools and the knowledge to be able to make good business decisions. I really got my money's worth...”*

*“My job now at Accenture leverages what I've learned in the MMS program like business writing skills, strategic analysis, and financial forecasting. However, I picked Accenture's Reston office because they focus on the public sector, which complements my passion. Honestly, I wouldn't have even thought about this position before the MMS program. Although I knew I wanted a job that exposed me to many aspects of business, I didn't know much about management consulting or what a career in the industry would expose me to. In this way, the MMS program opened many doors for me, not just by virtue of networking opportunities and academic credentials, but also by virtue of how much I learned about business, in general, and the industries and career options available to me. “*

*“Even though I have only been [on the job] for a short time, I can already see how valuable the MMS program was for me. I didn't have the knowledge nor the skills to take on this job before I did the MMS program. Plus, I get so much more out of my job now that I have the education. So far, my favorite part of the job is collaborating with people across the company including the rest of the marketing team, customer service, merchandising, the logo department, and even top executives. I really value this opportunity, especially having been exposed to all areas of business as part of the MMS program. Knowing about these other areas and how they connect helps me better understand my role in the company and allows me to do my best. Also, it feels natural to work with a diverse group of people because I worked in a team environment at Fuqua.”*

*“Having a master's degree was a big benefit. Going into my role, I had the right business vocabulary needed to be effective. In my position, I go after sales, do preliminary site designs, and think about the financials. I look at projects not just from an engineering perspective, but from an engineering and business perspective—that's exactly what I was hoping for and I don't think I would have gotten it without the MMS program.”*

## **Employment Statistics/Pilot Program**

### **Career Statistics, MMS Class of 2010**

The MMS employment report for the class of 2010 shows 80% of MMS students seeking employment had received a job offer as of October 15, 2010. The mean salary was \$56,741, while the median salary offer was \$55,500. The mean signing bonus was \$6,675, with a median of \$5,500 (with 21% of the students reporting an offer also reporting a signing bonus). These figures, both in terms of the percentage reporting offers as well as the salaries and bonuses reported, significantly exceed our expectations for the program, particularly given the current state of the job market and the fact that the degree is not well-known within the United States.

The success of the program from a career perspective is further bolstered by the quality and diversity of the companies who hired MMS graduates. To date, 63 firms have hired MMS graduates, and the list includes Goldman Sachs, Morgan Stanley, the Federal Bureau of Investigation, American Express, United Talent Agency, the Boston Red Sox, L.E.K Consulting, Leo Burnett, Soccer United Marketing, Accenture, Emirates NBD, Royal Bank of Scotland, and PricewaterhouseCoopers.

It is also important to note that the job statistic in terms of percentage of students reporting an offer is not unlike that experienced by many MBA programs. For a new program, in its pilot year, in the middle of an extremely tight job market to enjoy this type of success is a clear indicator of the overall demand on the employer side for the MMS degree.

A copy of the Employment Statistics Report for the Class of 2010 is found in Appendix B.

### **Recruiting Statistics, MMS Class of 2011**

Fall recruiting for the MMS class of 2011 kicked off on September 2, 2010, with on-campus interviews. The MMS students have been enjoying strong success in this process. During the first six weeks of the recruiting process (through October 18, 2010), out of 87 MMS students who sought an interview slot with a recruiting company, 58 students (67%) have received an interview.

This is much stronger than what one would anticipate in a typical applicant pool. For example, a typical application to one of the top consulting firms on the MBA side receives 150 applicants and selects 40-45 interviewees (27% to 30% selection ratio). The highest we

typically see on the MBA side is the 35% to 40% for premier corporate opportunities. For 58 students to have received one or more invitations from a total of 87 students who've applied is a significantly higher selection ratio at 67%. While these numbers are not an apples-to-apples comparison, since the MBA opportunities are for specific companies and the MMS data is for unique students, they still give one a sense of the very strong demand we are finding from employers for the MMS students.

The interviews through October 18 were scheduled with 50 different companies. As was true for the class of 2010, the companies interviewing the MMS students are a very high quality and diverse pool of companies. They include Boston Consulting Group, Proctor & Gamble, The Blackstone Group, Wells Fargo, IBM, BlackRock, Accenture, Advisory Board Company, Capital One, Morgan Stanley, Lazard Middle Market, and the Central Intelligence Agency.

## **Curriculum and Degree Requirements**

### **Master of Management Studies: Foundations of Business**

#### **Program Requirements**

The Master of Management Studies: Foundations of Business consists of 15 required courses for a total of 43 credits. The curriculum includes eight standard core courses (3 credits/each, for 24 total credits) which constitute the breadth expected in a master's level business education; four additional required depth courses (with 3 credits/each, 12 credits total) which create the Foundations of Business general management concentration; and a required professional skills sequence to cover foundational work in quantitative analysis (1 course of 3 credits) and business communication (2 courses of 2 credits/each, for 4 credits total). There are no elective courses in the program.

#### **Standard Core Courses**

The eight standard core courses represent the primary disciplines found in a graduate business course of study and include:

1. Management: Foundations of Management and Organizations (MANAGEMENT 220F)
2. Accounting: Introduction to Financial Accounting (ACCOUNTG 245F)
3. Finance: Foundations of Capital Markets (FINANCE 250F)
4. Decision Sciences: Spreadsheet Modeling and Decision Analysis (DECISION 210F)
5. Marketing: Introduction to Marketing Analysis (MARKETNG 260F)
6. Strategy: Principles of Strategy (STRATEGY 230F)
7. Economics: Fundamentals of Business Economics (MGRECON 200F)
8. Operations: Introduction to Operations and Supply Chain Management (OPERATNS 270F)

#### **Depth Courses for Foundations of Business**

In addition to the eight core courses above, which represent each of the business discipline areas (departments) within The Fuqua School of Business and provide the breadth required in a master's level business course of study, the Foundations of Business curriculum includes the following depth courses which combine to create a concentration in general

management and provide the knowledge needed to prepare students for entry level analyst positions across a broad range of business needs.

1. Accounting: Principles of Cost and Managerial Accounting (ACCOUNTG 246F)
2. Accounting: Fundamentals of Financial Analysis (ACCOUNTG 247F)
3. Finance: Foundations of Corporate Finance (FINANCE 251F)
4. Marketing: Fundamentals of Market Intelligence (MARKETNG 261F)

### **Professional Skills Courses**

Given the pre-experience nature of the MMS: Foundations of Business and the target student from a liberal arts/non-business background, a number of foundational courses are also required to adequately prepare students for the entry level analyst roles. These courses comprise the Professional Skills portion of the program. The three Professional Skills courses were added to the program following the inaugural year of the program, as assessment of student needs indicated these were courses which needed to be incorporated in the curriculum to ensure that students were adequately prepared for the quantitative rigor of the Foundations of Business program, as well as to develop the communication skills required of students in both the job search as well as in the analyst level roles into which they were being hired. To accommodate the addition of these three courses, a fifth term (a Summer Term, taking place at the outset of the program) has been added.

1. Quantitative Business Analysis (DECISION 202F)
2. Business Communications I (MGMTCOM 204F)
3. Business Communications II (MGMETCOM 205F)

### **Course Content and Delivery**

It is important to note that while the concepts and frameworks in these courses are similar to those provided in like-named Fuqua MBA courses, the content and delivery of the MMS courses has been adjusted in two significant ways. First, given the pre-experience demographic of the MMS program, the pedagogy in the MMS classroom is not built around drawing from student work experiences. Instead, the students participate in other forms of class discussion, simulations, case study analyses, and class exercises which contribute to a highly engaged learning environment. Second, the courses focus on the skills relevant to an entry level analyst position rather than entry into a leadership position. For example, the Marketing Analysis course focuses more on the spreadsheet analysis skills and tools needed to support marketing decisions rather than focusing on the coordination of marketing decisions with operations and finance that are of relevance in the MBA classroom.



## Graduation and Continuation Requirements

### MMS Graduation and Continuation

To graduate from the MMS degree program, students must complete 43 credits, pass all required courses with a grade of “LP” or higher, and have a GPA of at least 3.0.

Students may be dismissed from the program if they fail to make satisfactory progress towards these goals. Satisfactory progress is defined by the following two criteria:

1. Students must complete all required courses by the end of the academic year. Courses designated as required must be taken at the designated times.
2. Students’ grades must exceed a minimum threshold defined by the following "strike system." Students receive one strike for each F they earn and 0.5 strikes for each LP; these strikes accumulate through the program. If the total number of strikes received meets or exceeds the threshold specified, the student will be immediately dismissed from the program. **The threshold for dismissal from the MMS program is the accumulation of 1 strike at any point during the program.**

Students who are dismissed from the program may appeal their dismissal to the Curriculum Committee of The Fuqua School of Business. The Curriculum Committee will review the appeal and consider extenuating circumstances, if any. Appeals must be submitted in writing within two weeks of notification of dismissal.

If allowed to continue in the program, following appeal to the Curriculum Committee, students who earn an F in a required course must retake and pass that course or its equivalent. Per Duke University policy, Fs remain on the student's transcript and figure into the GPA even after retaking the course.

### Master of Management Studies: Foundations of Business Grading Scale

The following grading scale, as is standard within The Fuqua School of Business, applies to all MMS courses:

Superior Pass (SP)—4.0
High Pass (HP)—3.5
Pass (P)—3.0
Low Pass (LP)—2.5
Fail (F)--0

## **Admissions Requirements Master of Management Studies: Foundations of Business**

Duke University and The Fuqua School of Business are challenging and rigorous academic institutions, to which admission is highly selective. For the Master of Management Studies: Foundations of Business program, applicants are expected to possess outstanding intellectual ability and strong academic credentials. In addition, applicants are expected to have demonstrated leadership in their undergraduate programs and extracurricular activities. The MMS coursework requires students to work together in teams, so accepted students also need to possess excellent interpersonal skills.

To be eligible for admission, a student must have earned a bachelor's degree from an accredited college or university. No specific undergraduate major is considered preferable to any other. Individuals who have already received an MBA or its equivalent or an applied master's degree in business (from an institution located in the U.S. or abroad) are not eligible for admission to the MMS program.

All admissions are handled through The Fuqua School's Office of Admissions. Applicants are required to submit the following:

- Application
- Resume
- Essays
- Graduate Management Admissions Test (GMAT) or Graduate Record Examination (GRE) Score
- English Language Proficiency Test Score (TOEFL, IELTS, or PTE)
- Transcripts
- Two Recommendations
- Interview (interviews will be scheduled upon invitation only, following review of submitted applications)
- Nonrefundable Application Fee

As is true for all Duke University programs, the following statement, found in our application instructions, applies to the application process for the MMS program: "Duke University does not discriminate on the basis of race, color, national and ethnic origin, sex, physical abilities, age or sexual orientation for preference in the administration of educational policies, admissions policies, financial aid, employment or any other University program or activity. It admits qualified students to all rights, privileges, programs and activities generally accorded or made available to students. The Fuqua School of Business

appreciates and values differences inherent within our community. As an organization we are committed to building and sustaining an environment conducive to capitalizing on the diversity within our community as a source of intellectual, personal and professional growth and innovation.”

It also is standard in the application process for Fuqua for all applicants to read and sign their agreement to the Fuqua Honor Code. Specifically, it notes on the application that “The signature in the last section of the application indicates that the applicant has read the Honor Code and agrees to accept and abide by the Honor Code and its bylaws.” This requirement is a part of the application process for the MMS program. A copy of the Fuqua Honor Code is found in Appendix F.

## **Ongoing Program and Learning Outcomes Assessment**

### **Metrics for Overall Program Assessment**

On an ongoing basis, the following metrics will be used to evaluate the success of the Master of Management Studies: Foundations of Business. As information is compiled for the following areas, it will be evaluated and presented to The Fuqua School Curriculum Committee for review. As needed, enhancements will be made to the MMS program, with substantive changes brought to the appropriate committees, councils, and boards for approval, as required.

- 1) Number of applications
- 2) Quality of applications
- 3) Number of students matriculated
- 4) Assessment of student quality from a faculty and staff perspective
- 5) Student assessment of program quality
- 6) Course evaluations
- 7) Student performance in courses
- 8) Financial assessment
- 9) Post-graduation employment
  - a) Number of firms recruiting
  - b) Quality of firms recruiting
  - c) Overall statistics on student employment with three months after graduation
- 10) Employer surveys
  - a) Quality of hired students

### **Student Learning Outcomes Assessment**

Fuqua has made substantial progress toward establishing a strong program of student learning outcomes assessment. The School's primary assessment focus this year has been on developing a strong assessment model for the Master of Management Science (MMS): Foundations of Business Program. We plan to continue to refine this assessment model for the MMS program on an ongoing basis.

A major part of the assessment model is tied to a course from Spring Term II (the final term of the program), Fundamentals of Financial Analysis. This course relies on student learning from multiple courses in the program. As a result, it presents an excellent opportunity to assess student learning across the program.

In this course, assessments of program learning are based on student performance on the course exam and on a final course project. For the final project, teams of four or five students prepare both a written and an oral presentation of their financial analysis of a public company. Ten teams (chosen at random at the beginning of the final class period and representing half the class) present their reports of their findings in the project in the final Fundamentals of Financial Analysis (FFA) class. Appendix E details the assessment findings from this course in the inaugural year of the program.

**Appendix A**  
**MMS: Foundations of Business**

**Class of 2010**  
**Applicant/Admitted Student Data**

	<b>Applicants</b>		<b>Matrics</b>	
<b>Total</b>	<b>177</b>		<b>99</b>	
Males	113	64%	64	65%
Females	63	36%	34	34%
Gender Undecided	1	1%	1	1%
International/Not Specified	42	24%	8	8%
Domestic (Citizen +Permanent. Resident)	135	76%	91	92%
URM	34	19%	19	19%
<b>Undergrad Institution</b>				
Duke	91	51%	62	63%
Non-Duke	86	49%	37	37%
<b>GPA Average (4.0 scale)</b>	3.26	152/177	3.32	93/99
<b>Age</b>				
Min	20		21	
Max	32		28	
Average	24		23	

**Appendix A, continued**  
**Admitted Student Data**  
**Class of 2011**

<b>Class Size</b>	<b>101</b>	
Total completed applications	360	
Average Age	23	
Entering with work experience (>= 6 months)	30	30%
Average undergraduate GPA (4.0 scale)	3.37	89/101
80% Range of undergraduate GPA	3-3.72	
80% Range of GMAT (out of 65 reported scores)	580-740	
80% Range of GRE Verbal (out of 36 reported scores)	410-660	
80% Range of GRE Math (out of 36 reported scores)	620-800	
Women	41	41%
Minorities	20	20%
URMs	10	10%
Domestic (by US-Status)	67	66%
International (by US-Status)	34	34%
<b>Country of Citizenship</b>	<b>#</b>	<b>%</b>
<b>Countries Represented</b>	<b>18</b>	
Canada	2	2%
China	24	24%
Egypt	1	1%
Iceland	1	1%
India	3	3%
Italy	1	1%
Jamaica	1	1%
New Zealand	1	1%
Pakistan	1	1%
Republic of Korea	2	2%
Romania	1	1%
Russian Federation	1	1%
Singapore	1	1%
South Africa	1	1%
Switzerland	1	1%
United Kingdom	1	1%
United States	56	55%
Vietnam	2	2%
	<b>#</b>	<b>%</b>
Business and Accounting	22	22%
Engineering/Natural Sciences	11	11%
Economics	21	21%
Liberal Arts	45	45%
Other	2	2%
<i>Note: For class profile reporting purposes, student count for dual citizens is recorded in both countries of citizenship. Students reporting U.S./dual citizenship are accounted for in second country of citizenship.</i>		



## Appendix B

### Duke MMS final employment statistics for 2009-10

#### Class of 2010 (full-time) employment statistics

Timing of first job offer	Total seeking employment	Received 1st offer by 7/1/10	% received 1st offer by 7/1/10
With permanent US work authorization	82	55	67%
Without permanent US work authorization	8	5	63%
<b>All graduates seeking employment</b>	<b>90</b>	<b>60</b>	<b>67%</b>
<i>*7% of the offers reported (5% permanent US work authorization and 2% without permanent US work authorization) were for internships.</i>			
Timing of job offer acceptance	Total seeking employment	Accepted offer by 7/1/10	% accepted offer by 7/1/10
With permanent U.S. work authorization	82	54	66%
Without permanent U.S. work authorization	8	4	50%
<b>All graduates seeking employment</b>	<b>90</b>	<b>58</b>	<b>64%</b>
<i>*8% of the acceptances reported (5% with permanent US work authorization and 3% without permanent US work authorization) were for internships</i>			
Sources of employment	MMS 2010 grads accepting full-time positions		
Job source			
Family, friend outside school	27%		
On-campus interview	19%		
Other	16%		
Internet	8%		
Fuqua job postings	8%		
Previous employer	8%		
Resume books, resume referrals, web resumes	3%		
Off-campus activities supported by the career center	3%		
Alumni referrals	3%		
Faculty referrals	2%		
Fuqua on-campus recruiting event	2%		
Direct mail campaign	2%		
<i>*Of those indicating a job source, 48% are Fuqua-facilitated</i>			
<i>* Total percentage does not equal 100% because of rounding</i>			





## Duke MMS final employment statistics for 2009-10

<b>Top hiring companies for 2009-10</b>			
Company Name	Duke MMS full-time hires	Duke MMS intern hires	Total Duke MMS hires 2009-10
Accenture	3	0	3
Goldman Sachs	2	1	3
The Fuqua School of Business	2	1	3
American Express Company	2	0	2
Capital One	2	0	2
CarMax	2	0	2
Citigroup	2	0	2
Duke University Athletics	1	1	2
L.E.K Consulting	2	0	2
Morgan Stanley	2	0	2
Royal Bank of Scotland	2	0	2
Vinson and Elkins LLP	1	1	2



## Duke MMS final employment statistics for 2009-10

### Companies hiring at least one Duke MMS student in 2009-10

*An asterisk (\*) indicates a company that has hired at least one Duke MMS student who does not have permanent U.S. work authorization.*

Abercrombie & Fitch	Finacity Corporation
Accenture	Forest Hills Financial Group
Allscripts-Misys Healthcare Solutions	Goldman Sachs*
American Express Company	GPR, Inc.
Amherst Partners	Herbert Management Company
Apple, Inc.*	Hillstone Restaurant Group
AT Kearney	Jackson National
BAE Systems	Jewish Vocational Service
Bandwidth.com	KARHU Sports
Bank of America	KM Systems Group
Bank of New York Mellon	LEK Consulting
Beefreed	Leo Burnett
Benrimon Contemporary	Lieberman Research Worldwide
Best Practices, LLC	Mansfield Oil*
Biosector 2	May Davis Partners*
Bixby Bridge Capital*	Meriturn Partners, LLC*
Boston Red Sox	Morgan Stanley
Capital One	Peter J Solomon Company
CapRok Capital	PowerSecure
CarMax	PricewaterhouseCoopers LLP
Centerview Partners	Queensboro Shirt Company (The)
Citigroup	Royal Bank of Scotland
Coady Diemar Group	Soccer United Marketing
Cooper Industries	Spirit Aerosystems
Duke University Athletic Association	TD Bank
Duke University Medical Center	UBS Investment Bank*
DUMAC (formerly Duke Management Company)*	United Talent Agency
Fuqua School of Business, The	Vinson and Elkins, LLP
eGlobalTech	Wells Fargo Advisors
Emirates NBD	Wine Leverage
Ernst & Young LLP	Zelman & Associates
Federal Bureau of Investigation (FBI)	Zephyr Management



## Duke MMS final employment statistics for

Class of 2010 (full-time) employment statistics

### Base salary information (annual amounts)

	% reporting full-time salary	Mean salary	Median salary	Low salary	High salary
With permanent U.S. work authorization	78%	\$56,010	\$55,000	24,000	160,000
Without permanent U.S. work authorization	83%	64,200	70,000	51,000	75,000
All graduates seeking employment	79%	56,741	55,500	24,000	160,000
<b>Signing bonus information</b>					
	% reporting signing bonus	Mean bonus	Median bonus	Low bonus	High bonus
With permanent U.S. work authorization	23%	\$6,367	\$5,500	\$3,000	\$10,000
Without permanent U.S. work authorization	0%				
All graduates seeking employment	21%	6,367	5,500	3,000	10,000

**Appendix C**  
**Fuqua Faculty**  
**MMS: Foundations of Business**  
**2010 and 2011**

**Sharon Belenzon**, PhD, Assistant Professor of Strategy; BA (Tel-Aviv University); MA (Tel-Aviv University); PhD (London School of Economics & Political Science). Professor Belenzon's research interests are in economics of innovation and corporate finance as well as applied microeconomics and industrial organization.

**Li Chen**, PhD, Assistant Professor of Business Administration; BS (Shanghai Jiao Tong University), MS, PhD (Stanford University). Professor Chen's teaching and research interests are in operations and supply chain management. Prior to joining the Duke faculty, he was co-founder and lead scientist at a supply chain software company in Silicon Valley. His current research focuses on developing new approaches to supply-chain information and control problems. He teaches supply chain management.

**Brendan Daley**, PhD, Assistant Professor of Economics; BS (Cornell University); PhD (Stanford University). Professor Daley's research interests are in applied microeconomic theory, industrial organization and political economic theory.

**Scott Dyreng**, PhD, Assistant Professor of Accounting; AS (Snow College), BS and MAcc (Brigham Young University), PhD (University of North Carolina). Professor Dyreng's research interests are in corporate taxation, including accounting for income taxes, and affect of taxes on investment decisions and accounting information. His teaching interests are in managerial accounting and tax, including corporate control, transfer pricing, and decision making.

**Yonca Ertimur**, PhD, Assistant Professor of Accounting; BS (Bogazici University), MBA (University of Rochester), PhD (New York University). Professor Ertimur's research and teaching interests include corporate accounting disclosures, role of analysts as information intermediaries, corporate governance, financial accounting, and reporting. Her prior experience included academic positions at Stanford Graduate School of Business and the Stern School of Business at New York University.

**Simon Gervais**, PhD, Associate Professor of Finance; BSc, (Université Laval), MSc, (University of California at Berkeley), PhD (University of California at Berkeley). Professor Gervais conducts theoretical and empirical research in finance. His current work looks at the effects of behavioral biases on financial markets and firm organization, the structure of the money management industry, and the optimal structure and design of exchanges. Professor Gervais' research has appeared in the Journal of Finance and the Review of Financial Studies, and his paper "Learning to Be Overconfident" won the Barclays Global Investors/Michael Brennan Award as the best paper in the Review of Financial Studies in 2001. Prior to joining The Fuqua School of Business, Professor Gervais was at the Wharton School of the University of Pennsylvania for seven years, where he taught corporate finance and financial analysis. He currently teaches a course on corporate finance.

**Dan J. Laughhunn**, DBA, Professor of Business Administration; BS, MBA, DBA (University of Illinois). Professor Laughhunn has served as a consultant to industry and universities on a variety of topics related to planning and budgeting. His teaching and research interests deal with the application of quantitative techniques to problems in production and finance. Professor Laughhunn also has been actively engaged in teaching executive development programs, both at Duke and at other universities.

**Tracy R. Lewis**, PhD, Martin L. Black, Jr. Professor of Business Administration; BA, PhD (University of California, San Diego). Professor Lewis' research interests include financial and commercial contracting theory, regulation and industrial organization, and the law and economics of innovation. He teaches a course in contract theory and a course on competitive strategy.

**E. Allan Lind**, PhD, James L. Vincent Professor of Leadership; BA (University of Florida), MA, PhD (University of North Carolina at Chapel Hill). Before coming to Duke, Professor Lind was on the faculties of the University of Illinois at Urbana-Champaign and Leiden University in the Netherlands. He was also a senior behavioral scientist at the RAND Corporation and a senior research fellow of the American Bar Foundation. Professor Lind's research interests include international and cross-cultural management, distributed and virtual team performance, organizational justice, conflict management, and litigation in organizational contexts. His research includes studies conducted in the U.S., Japan, China, the Netherlands, France, Germany, and Great Britain. He teaches courses in global managerial effectiveness and ethics in management.

**Mary Frances Luce**, PhD, Professor of Marketing, (Duke University), BS (cum laude, Ball State University) and Associate Dean for Faculty Affairs. Professor Luce's general research interests involve understanding decision processing in high-stakes situations involving stress and negative emotion. One of her application areas of interest is medical decision making from the patient perspective. She is the author of *Emotional Decisions: Tradeoff Difficulty and Coping in Consumer Choice*; her work has also been published in journals such as the *Journal of Consumer Research*, *The Journal of Marketing Research*, *Management Science*, and *Marketing Science*. She has received research grants from the National Science Foundation and the Marketing Science Institute, and she is currently an associate editor of the *Journal of Consumer Research*. Luce was a faculty member at the Wharton School prior to joining the Fuqua faculty. She currently teaches a course on health care marketing.

**Pranab Majumder**, PhD, Adjunct Associate Professor of Business Administration; BTech. (Indian Institute of Technology), MBA (Indian Institute of Management), MS, PhD (University of Rochester). Professor Majumder's interests cover the interface of operations management with economics, marketing, and information technology. His current research includes the social implications of remanufacturing, environmental manufacturing, the effects of competition therein, the effect of customer choice behavior on retail inventories, and the effect of personnel policies in Markov models of service management. He teaches the core operations management course.

**Will Mitchell**, PhD, J. Rex Fuqua Professor of International Management; BBA (Simon Fraser University), PhD (University of California, Berkeley). Professor Mitchell studies business dynamics. His research investigates how businesses change as the environments in which they compete change and, in turn, how the business changes contribute to ongoing corporate success or failure. Much of his research focuses on business level technical change, including use of information technology, development of new product technology, and introduction of new organizational technology. His published work appears in journals such as *Strategic Management*, *Administrative Science Quarterly*, *Management Science*, *Research Policy*, and *Industrial and Corporate Change*. His current research focuses on how firms choose among and then manage different modes of change, such as acquisitions, alliances, discrete resource exchange, and internal development. He is studying the causes and effects of such changes for firms operating in several industrial sectors in North America, Europe, and Asia, including trucking services, medical sector, health services, telecommunications, and auto sector business. He serves as associate editor of *Strategic Management Journal* and sits on the editorial boards of several other academic journals in North America, Asia, and Europe. He teaches courses on business dynamics, corporate strategy, alliance strategy, and manufacturing strategy.

**Robert F. Nau**, PhD, Professor of Business Administration; BA (University of California at San Diego), MS, PhD (University of California at Berkeley). Professor Nau's research interests include the mathematical foundations of decision theory and game theory and their applications in economics and finance. Prior to coming to The Fuqua School of Business, Professor Nau taught at Tulane University and served as manager of information systems at Liberty Mutual Insurance Company. He has taught courses on decision models (management science), computers and information systems, statistical forecasting, and rational choice.

**Per Olsson**, PhD, Associate Professor of Business Administration; MSc, PhD (Stockholm School of Economics). Professor Olsson's teaching interests are in financial reporting and financial statement analysis, particularly the role of accounting information in investment decisions. His research focuses on valuation issues, particularly in an international setting.

**David T. Robinson**, PhD, Professor of Finance; BA (UNC-Chapel Hill), MSc (The London School of Economics), MBA, PhD (The University of Chicago). Professor Robinson's research interests lie in the intersection of corporate finance and the economics of organizations. His recent work has examined the contractual structure of strategic alliances and joint ventures, as well as the role of valuation in determining merger activity. Professor Robinson teaches entrepreneurial finance in the daytime MBA program. Prior to joining Duke, Professor Robinson taught for two years at Columbia University.

**Lukas Schmid**, PhD, Assistant Professor of Finance, MSc (ETH Zürich); MSc (University of Lausanne); PhD (University of Lausanne & Swiss Finance institute). Professor Schmid is a theorist who works on the linkage between corporate finance and asset pricing issues. His main research interests lie in the intersection of asset pricing and quantitative modeling.

**Richard Staelin**, PhD, Edward and Rose Donnell Professor of Business Administration; BS, MBA, PhD (University of Michigan). Prior to joining Duke's faculty, Professor Staelin served as professor and associate dean at the Graduate School of Industrial Administration, Carnegie Mellon University. He was also a visiting professor at the Australian Graduate School of Management and at the University of Chicago. His professional activities include consulting work for both the public and private sectors, executive director of Marketing Science Institute, and publication of a book and over fifty journal articles. He was Fuqua's associate dean for faculty for eight years and the editor of Marketing Science from 1995-1997. He was the initial managing director of Fuqua's Global Executive MBA program and the managing director of the Siemen's executive education programs. He was recently the winner of the AMA/Irwin Distinguished Marketing Educator Award and the Converse Award. He has chaired numerous PhD

committees. His students are now teaching at many of the top business schools around the world. Professor Staelin's current research interests include information search, channel management, strategy formulation, and managerial decision making.

**Mohan Venkatachalam**, PhD, Associate Professor of Business Administration; BCom (Vivekananda College, India), ACA (The Institute of Chartered Accountants of India), PhD, (University of Iowa). Before joining the faculty at Duke University, Professor Venkatachalam taught at the Graduate School of Business, Stanford University. Professor Venkatachalam's teaching interest is financial accounting. His research interests span several areas including implications of financial and nonfinancial metrics for compensation and valuation, effect of accounting disclosures on valuation, derivatives, and corporate governance issues. Prior to obtaining his doctorate he has worked as a business accountant in India and as an internal auditor in the Sultanate of Oman.



**Appendix D**  
**Fuqua School of Business, Duke University**  
**Master of Management Studies**  
**Proposal for pilot Foundations of Business program**

**Overview**

The Fuqua School of Business proposes a three-year pilot of a “Foundations of Business” version of its current Master of Management Studies (MMS) degree. The Foundations of Business program is intended for persons who wish to obtain certain basic business skills and subject matter knowledge, who lack business experience. The proposal received strong support in a vote of the Fuqua faculty (57-3). Specific details of the proposed pilot follow.

**MMS: Foundations of Business**

We propose a Foundations of Business program, to be offered at Duke University, consisting of 12 business courses (a total of 36 credit units) taught over four 6-week terms.<sup>2</sup> The Foundations of Business program will be a pre-experience Masters degree intended to help students obtain basic entry-level business skills and subject matter knowledge. It is not intended to be a substitute for an MBA degree. The focus is therefore on technical skills and subject matter knowledge of the sort associated with entry level positions in finance, marketing, consulting, and, possibly, general management. For example, an entry-level financial analyst should understand basic finance and accounting and possess decision modeling and spreadsheet modeling skills. An entry-level consultant would, in addition, require knowledge in strategy, corporate finance, marketing, managerial accounting, market intelligence, decision models and supply chain management. Similarly, an entry level marketing position requires knowledge of marketing analysis and market research, supply chain management, managerial/cost accounting and project finance plus skills in decision modeling and spreadsheet analysis.

---

<sup>2</sup> The standard Fuqua schedule consists of four 6-week terms: Fall I, Fall II, Spring I and Spring II.

The focus of the program on preparing students for the specific career tracks noted above is supported by anecdotal data based on conversations with our corporate partners. Importantly, it is also supported by hard data from Europe, where the concept of a pre-experience master's has a longer tradition. Data from 5,000 pre-experience master's alums indicate that 22% entered into financial services, 20% consulting, and 28% entered into consumer goods firms. The fact that a large number of the corporations hiring these students also have a relationship with Duke (e.g., Deloitte, Fortis, JP Morgan, McKinsey, PricewaterhouseCoopers, Procter & Gamble, BCG, etc.), reinforces our belief that the program focus is appropriate.

We expect the majority of students in this program to transition directly from an undergraduate program in liberal arts, the sciences, engineering, etc. However, the program might also attract Ph.D. students who intend to pursue a career in industry but, like the undergraduates, lack business experience and training. Conversations within Duke suggest that the proposed pilot program could be of interest and helpful to this latter audience.

### Admissions

The admissions process and admissions decisions will be conducted by the Fuqua School of Business. Both merit and need-based scholarship assistance would be available. Fuqua will require help from the University's undergraduate admissions group to make need-based financial aid evaluations, which will be available. The application will require:

- Undergraduate degree from an 4-year accredited program
- Academic transcripts and graduate transcripts as relevant
- Responses to essay questions to assess readiness and interest
- GMAT or GRE scores; in year one only of the pilot we will also consider SAT scores
- Two letters of recommendation
- Interview
- Appropriate readiness in statistics and computer skills

## Tuition

Tuition will be set according to the Duke undergraduate tuition and fees for newly matriculating students.

## Curriculum

The proposed curriculum for the Foundations of Business program involves 12 required courses (3 credits per course for a total of 36 credits), offered over four 6-week terms (3 courses per term). Each course would meet twice a week for 2.25 hours, or 27 contact hours per class. The four terms would mirror the four current Fuqua terms (Fall I, Fall II, Spring I, and Spring II). These courses will be distinct offerings for the MMS students and will not comingle MMS and MBA students.

The curriculum presumes basic knowledge of statistics and computer skills. All students will be required to show sufficient prior coursework (or pass an exemption exam) in statistics, and to demonstrate competency in computer skills prior to the start of the program, by taking an online examination. A boot-camp statistics course (and separately, computer skills course) would be offered, for an additional fee.

The proposed 12 courses to be offered over the four terms (Fall I, Fall II, Spring I, and Spring II) are listed below.

- Business Economics
- Financial Accounting
- Strategy
- Investments and Financial Markets
- Marketing Analysis
- Decision Models
- Supply Chain Management
- Management and Organizations
- Managerial/Cost Accounting
- Market Intelligence
- Financial Analysis and Valuation
- Corporate Finance

The proposed courses for the Foundations of Business program are an approved part of Fuqua's curriculum. The concepts and frameworks in these courses will be similar to

those provided in like named MBA courses. However, the content and delivery of the courses will be adjusted in two significant ways. First, they need to reflect the different experience level of the students in the Foundations of Business program. In particular, Fuqua MBA students typically have 6-7 years of work experience, in contrast to the zero work experience anticipated for the entering MMS students. Thus, the pedagogy in the MMS classroom cannot be built around drawing from student experiences. Second, the courses need to focus on the skills relevant to an entry level analyst position rather than entry into a leadership position. Thus, for example, the Marketing Analysis course would focus more on spreadsheet analysis skills and tools needed to support marketing decisions rather than focusing on coordination of marketing decisions with operations and finance that would be of relevance in the MBA classroom. Similarly, because the MMS students will enter into analyst roles as a part of teams, the Management and Organizations will focus on the team building, team dynamics and negotiation rather than the typical focus on leadership, motivation, and incentives that would be of relevance to MBA students.

There are no elective courses and no exemptions or substitutions permitted. This structure reflects the importance of the following issues: 1) we need to ensure the appropriate balance between the breadth and depth needed to successfully prepare students for analyst positions; 2) we need to ensure that students have uniform quality with respect to depth of exposure to concepts and frameworks in a given area; and 3) intact cohorts will allow us to enhance teaming skills in repeated contexts. All courses in the Foundations of Business program will be taught by Fuqua faculty (tenure track and non-tenure track).

### Career Management Services

Career management services would be managed and conducted by the Fuqua School of Business. We believe that these services are better offered by Fuqua, as opposed to the University, for four reasons. First, we will be able to control, manage, and coordinate the career services of the MMS students, in the context of the services we currently provide to our MBA students, in particular, avoiding confusion on the part of recruiters (as well as others) about the two programs and the students in them. Second, our analysis indicates that the costs will be lower, overall, compared to a model where career services are managed by the University and coordinated with

Fuqua. Third, discussions with Fuqua's career services staff indicate that our current structure is well suited to placing the entry-level persons generated by this program. Fourth, internalizing these services will enhance the *overall* recruiting environment for both our MBA students and the MMS students, because Fuqua will be a "one-source" provider for employers who have needs for both more-experienced MBA students and less-experienced MMS students.

### Market Outreach

Because we are proposing a pilot program, we will not engage in advertising and direct mail campaigns as we normally would for our programs. Our initial emphasis will be on Duke students--we expect to hold a number of information sessions for the Duke student community. We also plan to hold information sessions at institutions of relevance to our target market, i.e., colleges and universities that do not have undergraduate business programs but produce strong, well trained students. Examples include colleges such as Davidson, Swarthmore, Wellesley, Vassar and Amherst along with universities such as Yale, Princeton, and Brown. While our first point of emphasis will be on Duke students, we believe that extending outreach to institutions of comparable quality will enhance the overall quality of the enrolled students and the credibility of the MMS program.

## Financial Implications

Our goal is to attract 90 students in the first year of the program placed into two sections. Assuming we can reach this target, which we think is achievable, the financial model is as follows:

<b>Revenue</b>	
Tuition	\$3,462,750
<b>Total Revenue</b>	<b>\$3,462,750</b>
<b>Expense</b>	
Faculty Cost	1,692,456
Program Dean and Admin	200,000
Scholarships	346,275
Outreach	50,000
IT	100,000
Admissions	100,000
Career Staff and Programming	150,000
Student Services Staff and Programming	250,000
Facility expenses	125,000
Team Skills Activities	200,000
<b>Total Expense</b>	<b>3,213,731</b>
<b>Total Contribution</b>	<b>249,019</b>

Under the scenario of two sections we generate a positive contribution. If, however, we cannot generate two sections, but instead can only yield a single section of 45 highly qualified students, the financial picture changes. Fortunately, we can scale most of the costs down with lower enrollments. This scalability in costs allows us to avoid financial losses with lower than anticipated enrollments, but we do move from a position of positive contributions to what is essentially cash neutral:

<b>Revenue</b>	
Tuition	\$1,731,375
<b>Total Revenue</b>	<b>\$1,731,375</b>
<b>Expense</b>	
Faculty Cost	846,228
Program Dean and Admin	200,000
Scholarships	173,138
Outreach	50,000
IT	50,000
Admissions	50,000
Career Staff and	
Programming	75,000
Student Services Staff and	
Programming	125,000
Facility expenses	62,500
Team Skills Activities	100,000
<b>Total Expense</b>	<b>1,731,866</b>
<b>Total Contribution</b>	<b>-491</b>

Thus, even under a pessimistic scenario we can essentially break-even in year one of the pilot and should be able to generate positive contributions by years two and three of the pilot.

### Risk Factors

There are three basic risk factors to consider. The first is financial risk. We propose to offer the 1-year MMS degree with tuition equal to the Duke University undergraduate tuition (in 2009-2010, \$37,485). Total revenues must cover faculty costs, career services, admissions, IT, student services, general administration, and scholarship costs (along with inevitable hidden costs). Enrollment of 90 students in two concurrent sections would generate sufficient revenues to cover these costs; at fewer than 90 students we would offer one section (reducing faculty costs but not other costs). The pilot program is expected to yield a contribution of \$250,000, which should be sufficient to cover unanticipated costs.

Second, there is the risk of cannibalizing the MBA degree, or confusing the brand. The MMS degree must be carefully differentiated from the MBA degree and this differentiation must be strictly maintained. Conceptually, the one year “foundations

of business” program is intended to focus more on basic technical skills, relative to a two year degree that offers both foundational training and depth in multiple areas. Practically, offering completely separate MBA and MMS courses will differentiate the two degrees, as will the type of students attracted. MBA students are experienced relative to the MMS students, have a higher entry level point within organizations, and require both leadership skills and global perspective, while the MMS student is at an entry level point where the key need is basic business skills. Finally, offering career services for MMS students through Fuqua’s MBA career services will allow us to present clearly, to recruiters and others, the differences between MBA and MMS students.

Third is the risk that the proposed pedagogy does not deliver a product that is valued by the market. Current feedback suggests a high market value for students who are liberally or scientifically trained and also possess basic business skills. The combination of critical thinking skills along with business knowledge is seen as highly desirable for entry level candidates. We have to monitor the MMS program and stay in constant contact with our industry partners to ensure that the MMS degree delivers on its value proposition and thus attracts great employers interested in hiring our graduates.

#### Pilot Assessment Metrics

There are a number of metrics that we will track to evaluate the pilot. These include the following:

1. Number of applications generated, by year.
2. Quality of applications generated, by year.
3. Number of students enrolled, by year.
4. Financial assessment, by year.
5. Assessment of student quality from a faculty perspective, by year.
6. Student assessment of program quality, by year.
7. Number of firms recruiting MMS students, by year.
8. Quality of firms recruiting MMS students, by year.
9. Assessment by recruiting firms of MMS student quality, by year.



When these metrics indicate that the MMS program is of the quality required by Duke University, our hope is that, during the three year window, we would bring the MMS program forward to request removal of the “pilot” designation.

## Appendix E

### Learning Outcomes Assessment Data, Class of 2010

Outcome	Measure & Target	Finding	Resultant Action
<p>Students have learned to adapt their basic communications skills, including (a) written presentation skills (b) oral presentation skills, to those required for entry-level analyst positions: There was no Business Communications course in this first offering of the MMS program, on the assumption that selection criteria would assure adequate basic skills, and that the courses in the program would allow students to adapt those skills to an analyst role.</p>	<p>Course professor provided qualitative assessments of written presentation skills for each of the 20 teams, based on their written reports.</p> <p><i>Target: Written presentation skills are strong or very strong for 80% of teams.</i></p> <p>(b) Course professor provided assessments of oral presentation skills for the class, as a whole, compared to what is expected of entry level analysts.</p> <p><i>Target: Oral presentation skills for 80% of teams are strong or very strong.</i></p>	<p>(a) 16 teams (80%) received very strong positive evaluations of their reports with respect to written communication <i>per se</i>. For four reports, deficiencies were substantive only relative to FFA, reflecting flaws in describing the team's analysis, rather than poor written communication skills.<sup>3</sup></p> <p>(b) Students' demeanor in oral presentations was not as formal or professional as the professor would expect of entry level analysts.</p>	<p>(a) Positive Outcome: No response needed.</p> <p>(b) Negative Outcome: Closed Loop: MMS faculty teaching in the Fall 2009 terms recognized that the students did not, overall, possess the requisite oral presentation skills: In December, 2009, the School's Curriculum Committee established a new MMS program requirement, a course in Management Communications.<sup>4</sup> The present assessment of oral presentation skills affirmed that decision, rather than providing the catalyst for this change.<sup>5</sup> Also, in future classes, the FFA professor will set expectations for presentations more definitively.</p>

<sup>3</sup> Problems identified by the professor were two: too much focus on technicalities to the detriment of the economics (two teams), and reports that were easy to read, but too sparse to communicate the economics or analyses effectively (two teams).

<sup>4</sup> Similarly, in July, 2010, The Curriculum Committee and faculty approved moving the MMS "Spreadsheet Modeling and Decision Analysis" course into Fall Term 2 (and replacing it in Spring Term 2 with "Introduction to Operations and Supply Chain Management," previously taught in Fall Term 2) *before* receiving assessment feedback. This change in sequencing was initially intended to help students acquire spreadsheet skills needed for courses taught in the second half of the curriculum. However, it will also provide students opportunities to practice in spreadsheet skills, found to be somewhat deficient in the assessments of some FFA teams (a result not reported here), so that their spreadsheet work will be more appropriate, efficient, and accurate by the time they finish the program and begin work as analysts.

<sup>5</sup> Recordings of these ten team presentations and the discussions in the class in response to those presentations have been provided to the Management Communications instructor for the 2010-11 class.

<p>Students have the requisite analytical skills, taught in their MMS Strategy, Marketing and Economics courses, to assess a firm's strategy and prepare a competitive analysis; students appreciate the relationship between those analyses and the assumptions of the financial model, which should flow out of the strategic analysis, linking the qualitative analysis to the financial model.</p>	<p>(a) The professor provided qualitative feedback, describing strengths and weaknesses indicated in the team analysis.  (b) The TA provided numerical assessments. To provide more comprehensive/specific feedback to MMS Strategy, Marketing and Economics faculty, TA assessed in detail, for 10 randomly selected teams, evidence of their ability to identify and articulate a firm strategy; evaluate that strategy; identify and evaluate the competitive landscape in which the firm operated; identify and assess potential firm risks; and use that information to generate forecast assumptions.  <i>Target: 80% of teams score 80% on the assessments of their strategy analyses.</i></p>	<p>(1a) 40% of the 20 teams received very positive assessments; specific deficiencies were noted for the remaining teams. <sup>6</sup></p> <p>(1b) 40% of teams in the sample achieved the target.</p> <p>The range in scores was from 1-10, of 10 possible, based on an allocation of two points for each of five factors assessed. The average was 6.1; One team scored 10; one scored 9; two scored 8; two scored 6; one scored 5; two scored 4; and one scored 1.</p> <p>Inter-rater reliability: The Professor and TA were consistent in their conclusions across teams.</p>	<p>Results of all direct and indirect assessments of learning outcomes have been provided to relevant deans and faculty (i.e., MMS Strategy, Marketing, and Economics), in time for their response before the next offering of their courses in 2010-2011.</p>
<p>The complete MMS assessment also included knowledge and skills from the Accounting, Finance and Decision Models courses.</p>	<p>Learning goals from those courses were the basis for assessments.</p> <p>Targets were set in collaboration with faculty.</p>	<p>Results are determined as above, based on assessments of the course professor and TA.</p>	<p>Results of all direct and indirect assessments of learning outcomes were provided to relevant deans and faculty in time for their response before the next offering of their courses in 2010-2011.</p>

---

<sup>6</sup> Typical positive comments included a version of the following: "Well balanced analysis of likely scenarios. This goes into forecast assumptions, so there is a very good fit between qualitative analysis and the financial model;" "Nice that you show ratios from competitors to *measure* the strategy and competitive position relative to comparable firms." Negative comments included points such as: "(Your discussion) does not explicitly link to the forecast assumptions, which are more motivated by recent trends in the financials, etc;" "Try including a discussion about the main competitive strategy, the likelihood of success or failure, etc. Let the discussion guide your forecast assumptions."

## **Appendix F**

### **The Honor Code of The Fuqua School of Business**

Duke University expects and will require the cooperation of all its students in developing and maintaining high standards of scholarship and conduct. The university wishes to emphasize its policy that all students are subject to the rules and regulations of the university currently in effect or which are put into effect from time to time by the appropriate authorities of the university.

The Fuqua School of Business has established its own Honor Code. Any student in accepting admission indicates a willingness to subscribe to, and be governed by, these rules and regulations and acknowledges the right of the university to take such disciplinary action, including suspension and/or expulsion, as may be deemed appropriate, for failure to abide by such rules and regulations or for conduct adjudged unsatisfactory or detrimental to the university.

Violations of the code and certain university regulations are adjudicated before the Fuqua Judicial Board, composed of representatives of the student body and the faculty.

#### **THE FUQUA SCHOOL OF BUSINESS HONOR CODE**

(Complete version available at:

[http://www.fuqua.duke.edu/admin/stuserv/student\\_affairs/hnrcode.html](http://www.fuqua.duke.edu/admin/stuserv/student_affairs/hnrcode.html))

*PREAMBLE:* Duke University is a community of scholars and learners, committed to the principles of honesty, trustworthiness, fairness, and respect for others. Students share with faculty and staff the responsibility for promoting a climate of integrity. As citizens of this community, students are expected to adhere to these fundamental values at all times, in both their academic and non-academic endeavors.

The objective of The Fuqua School of Business Honor Code is to promote these standards. As the Fuqua community benefits from the atmosphere of trust fostered by the Honor Code, each member is responsible for upholding the spirit as well as the letter of the Code.

*SCOPE OF THE HONOR CODE:* The Honor Code and the Honor Code Bylaws address violations or actions committed by students of The Fuqua School of Business or others taking classes at Fuqua. PhD students are members of the Graduate School of Duke University and are governed by the Judicial Code and Procedures of the Graduate School. Harassment issues will be handled by Duke University's Harassment

Committee. In addition, matters not addressed by the Honor Code may be covered by Fuqua or Duke University policies.

Before matriculating at The Fuqua School of Business, all students will be provided a copy of the Honor Code and the Honor Code Bylaws. Each student will sign a statement indicating that he or she accepts the provisions of the Honor Code and the Honor Code Bylaws without reservations.

*VIOLATIONS:* Violations of The Fuqua School of Business Honor Code consist of the following:

*Lying:* Lying includes, but is not limited to, communicating untruths in order to gain an unfair academic or employment advantage.

*Cheating:* Cheating includes, but is not limited to, using unauthorized materials to complete an assignment; copying the work of another person; unauthorized providing of material or information (e.g., proprietary course information) to another person; using the work of another without giving proper credit (e.g., plagiarism); and working on course material outside of the time constraints imposed by the instructor. In the event a student is unclear as to what constitutes unauthorized material and/or the appropriate time constraints, he or she has a duty to seek clarification from the course instructor. Instructors are responsible for defining the manner in which assignments should be completed.

*Stealing:* Stealing includes, but is not limited to, taking the property of another member of the Fuqua community without permission, defacing or vandalizing the property of The Fuqua School of Business, or the misuse of Fuqua resources.

*Failure to Report:* Any party having knowledge of an Honor Code violation without reporting it will be considered an accessory to the violation and subject to penalty if found guilty.

*STUDENT JUDICIAL REPRESENTATIVES:* Students in each program will elect student Judicial Representatives. These students are expected to help educate the student community about the Honor Code; provide advice to students, faculty and administration on Honor Code matters, and, if necessary to serve on the Judicial Board.

*CHARGES:* If any member of the Fuqua community believes that an Honor Code violation has occurred, then he or she may approach the suspected violator to clarify what happened. If after the approach the person making the allegation realizes no violation occurred, then the issue may be dropped. However, if the person making the allegation chooses not to approach the individual or after approaching the individual still believes a violation may have occurred, he or she must promptly bring the matter to

the attention of the associate dean for the program or a student member of the Judicial Board.

The associate dean, together with two student investigators, will promptly investigate the matter. The associate dean may delegate his or her role in the investigation to another member of the faculty or staff, if necessary. The two student investigators will be appointed by the associate dean and must be members of the same program as the accused. All investigation participants will be bound by a confidentiality agreement. The accused will be notified that they are under investigation and will be given a copy of these bylaws and reminded of their rights. Upon completion of the investigation, the investigators will decide whether to initiate formal proceedings.

After the investigation is completed, the associate dean will notify the accused of the investigators' decision. If formal charges are filed, the accused will be notified that he or she is being charged with an Honor Code violation and that proceedings will be held. Charges may be one or more of the following: lying, cheating, stealing, or failure to report a violation, as defined above. This notification will be at least five days prior to a formal hearing before the Judicial Board. The notification will consist of a written list of charges and other supporting material that the associate dean and the two student investigators deem relevant. The same notification will be simultaneously provided to the members of the Judicial Board.

*RIGHTS:* Anyone suspected of a violation has the following rights:

- The right to be informed that he or she is under investigation
- The right to avoid self-incrimination
- The right to seek advice from other members of the Fuqua community
- The right to receive any materials related to his or her case distributed to the Judicial Board in advance of the hearing no less than forty-eight hours before the hearing
- The right to have an advisor present at the Judicial Board hearing, although it is not the responsibility of The Fuqua School of Business to provide such an advisor, and the advisor's presence is limited to offering advice to the accused; the advisor may not address the board or any witnesses.
- The right to present witnesses and evidence at the Judicial Board hearing
- The right to a fair and impartial hearing by the Judicial Board
- The right to confront witnesses at the Judicial Board hearing
- The right to appeal a verdict or penalty for the following reasons:
  - The discovery of substantial new evidence
  - Failure by the investigators or the Judicial Board to follow these Honor Code Bylaws

*JUDICIAL BOARD PROCEEDINGS:* A formal hearing of the charges will be held before the Judicial Board after the associate dean has initiated formal proceedings. The Judicial Board hearing will be convened no earlier than five business days and no later than fifteen business days after the accused has been notified of the charges against him or her and of the date, time and place of the Judicial Board hearing.

The Judicial Board will consist of three faculty members appointed by the Dean of The Fuqua School of Business or his/her representatives, three student representatives, and a chair. The chair will be a member of the faculty, appointed by the dean, and will have non-voting status except in the case of a tie vote. Faculty representatives will hear all Honor Code cases. The students on the board should be selected from the Judicial Representatives of the program of the accused, including two students from the graduating class of the accused and one from another class. If there are not enough student Judicial Representatives available, the chair may appoint other students to serve on the board. At least five of the six voting members and the chair must be present to hold a hearing. The associate dean (or his/her designee) will attend the hearing to represent the investigative team. The chair is responsible for running the proceedings and moderating all discussions.

If the accused chooses to be present at the beginning of the hearing, the chair will ask the accused if he or she understands his or her rights as enumerated above. If the accused answers in the negative, the chair will explain these rights and the hearing will proceed. The chair of the Judicial Board will then read the charges against the accused and request a plea of guilty or innocent on each charge.

If the accused pleads guilty, the chair will invite the accused to make a statement describing the violation(s) and the circumstances leading to the violation(s) and discuss any extenuating or mitigating circumstances. The accused may offer evidence or call witnesses to support his or her statement. If necessary, the associate dean may also present evidence and call witnesses. The members of the Judicial Board, the associate dean, and the accused may question all witnesses and may examine any physical evidence that may be presented.

If the plea is not guilty or the accused chooses not to be present, the associate dean will then present the evidence and call witnesses (if any) supporting the charge(s) against the accused. Once the case against the accused has been presented, the chair will give the accused the opportunity to present his or her defense. The accused may also offer evidence or witnesses to refute the charges and may discuss any extenuating or mitigating circumstances. The members of the Judicial Board, the associate dean, and

the accused may question all witnesses and may examine any physical evidence presented.

After both sides have presented arguments and made closing statements, the accused, witnesses, and the associate dean will leave the room. The Judicial Board will then discuss the case and vote on the guilt or innocence on each charge. Members of the Judicial Board should vote “guilty” if they believe there is convincing evidence that the accused violated the Honor Code. Specifically, board members should vote "guilty" if they believe that the probability that the accused violated the Honor Code exceeds 90 percent. A simple majority vote of the Judicial Board will decide the verdict. If the verdict is guilty, the Judicial Board will then decide on a penalty or penalties, again determined by a simple majority vote.

If necessary, the chair of the Judicial Board may adjourn the hearing or deliberations concerning guilt or penalties. However, the board must conclude its proceedings within twenty business days of the first Judicial Board hearing.

A complete record (written, audio, or video) of the proceedings will be made and this record and any evidence will be retained by the associate dean to serve as a reference for future cases. All participants in the hearing must maintain the confidentiality of all those involved.

*PENALTIES:* In the event of a conviction, the Judicial Board will determine an appropriate penalty. These include, but are not limited to, the following:

*Cheating Violations*

Minor Penalty: reprimand and recommended failure of the assignment or course

Moderate Penalty: suspension for one term

Severe Penalty: suspension for not less than one semester or expulsion

*Stealing Violations*

Minor Penalty: restitution

Moderate Penalty: restitution and suspension for one term

Severe Penalty: restitution and suspension for not less than one semester or expulsion

*Lying Violations:* Lying to gain an unfair academic advantage will be treated as a cheating violation. Lying to gain an unfair employment advantage will have the following penalties:

Minor Penalty: interviewing with the company involved will be prohibited

Moderate Penalty: loss of all interviewing privileges at The Fuqua School of Business and suspension for one term

Severe Penalty: loss of all interviewing privileges at The Fuqua School of Business and suspension for not less than one semester or expulsion



*Failure to Report:* Failing to report a violation will be treated as an accessory to the unreported violation.

*Honor Code Violations:* Convictions of an Honor Code violation may limit the student's ability to participate in The Fuqua School of Business activities and may result in the loss of scholarship or fellowship support. If a convicted student chooses to run for or serve in an elected or appointed office, the Judicial Board may require that the student body be informed of the details of the conviction. During a period of suspension or following expulsion, a student may not use any resources or facilities of The Fuqua School of Business nor participate in activities conducted by the school or its student organizations.

All convictions of Honor Code violations will be noted on the student's transcript. Except in the case of expulsion, a student can petition the Dean of The Fuqua School of Business to have these notations removed from his or her transcript after some time has expired. The Judicial Board will determine the time period, with the following recommendations:

Minor Penalties: one year

Moderate Penalties: two years

Severe Penalties: four years

The time periods will run from the date of the conviction or the end of the suspension if there is one.

*NOTIFICATION:* The chair or another member of the Judicial Board will notify the accused and the associate dean of the verdict and penalty as soon as reasonably possible. Regardless of the outcome of the case, the chair of the Judicial Board will publish a brief summary of the case for the benefit of the students and faculty of The Fuqua School of Business. The summary will include the following: class of the accused, charges brought, verdict, and penalty. The summary should be published shortly after the conclusion of the proceedings.

*APPEALS:* As noted above, any person convicted of an Honor Code violation has the right to appeal a verdict or penalty if substantial new evidence is uncovered or if the associate dean or the Judicial Board failed to abide by these Bylaws.

Appeals must be initiated in writing and should be made directly to the Dean of The Fuqua School of Business. The Appeals Committee will consist of the dean or the dean's appointee, a tenured faculty member appointed by the dean and a student appointed by the dean. The Appeals Committee may uphold the decisions of Judicial Board, reverse a verdict or change a penalty, or send a case back to the Judicial Board to hear new evidence.

Appeals based on failure to abide by these bylaws must be initiated within fifteen business days of a conviction. The Appeals Committee must respond to the appeal within ten business days of the appeal. The Appeals board will publish a summary of its conclusion for the benefit of the students and faculty of The Fuqua School of Business.

*REVISION:* At any time, the Judicial Board may review the Honor Code and propose revisions to it or the Honor Code Bylaws. Any proposed revisions must be approved by a vote of the faculty and a vote of all students of The Fuqua School of Business. In each vote, approval will be determined by a simple majority of those voting. The new Honor Code and Honor Code Bylaws become effective immediately after both bodies approve it.