



# MS PROGRAM IN FINANCIAL ENGINEERING BARUCH COLLEGE, CITY UNIVERSITY OF NEW YORK

**Enter Baruch, exit to Wall Street**

*National School of Development*

*Peking University, Beijing, China*

*November 2015*



## BARUCH MFE IS HIGHLY REGARDED

- The Baruch MFE Program was ranked **Number 2 in US and Canada** in the **2015 QuantNet Ranking of MFE Programs**
- **High admission standards, very selective admission process**  
*Numbers for Fall 2015 Admission*
  - Applicants: 565
  - Admission rate: 10% (57 of 565)
  - Yield: 75% (43 of 57 admitted students enrolled in the program)
  - Fall 2015 cohort makeup: 84% full-time, 16% part-time
- **Attracts top practitioners to faculty**
  - Many full-time faculty members as well as adjunct professors are practitioners highly renowned in financial industry
- **Successful alumni in the financial industry**
  - Over 90% of the alumni working in the financial industry in New York (for companies like Goldman Sachs, JPMorgan Chase, Morgan Stanley, BNP Paribas, BofA, RBC,...)
- **Programs and graduates highly regarded by the financial industry**
  - Companies express high interest in graduates, often extending job offers months before graduation



# BARUCH MFE ATTRACTS THE BEST CANDIDATES

- **Top talent**
  - 2015 admission stats (test scores, relevant experience, achievements) are among the highest in the country
  - 28% of newly admitted students have graduate degrees, 12% have doctorate degrees
  
- **Top achievers**
  - Baruch MFE students are among the winners at major trading competitions (Rotman International Trading Competition, International Association for Quantitative Finance Student Competition, Metaquotes Trading competition, Interactive Brokers Trading Olympiad)
  
- **Highly regarded by the industry for their skills**
  - 100% job placement – December 2014 & May 2015 graduates
  - 100% summer internship rate – Summer 2015
  
- **Having “the right attitude”**
  - Great work ethic
  - Free of entitlement
  - Appreciative of the opportunities they have (affordable tuition)
  - Team players (emphasized by our teaching style)
  - Excellent communication skills
  - Driven to succeed and excel



## **BARUCH MFE CHINESE STUDENTS Admission & Placement, 2011 ~ 2015**

- **Admission Rate: 7%**
- **Placement Rate: 100% (Location: New York – 95%; Asia – 5%)**
- **Undergraduate schools represented:**
  - Peking University
  - Tsinghua University
  - Fudan University
  - Shanghai University of Finance and Economics
  - Zhejiang University
  - University of Hong Kong
  - Shanghai Jiao Tong University
  - Renmin University
  - Shandong University
  - Nankai University



# BARUCH MFE CHINESE STUDENTS JOB PLACEMENT STATISTICS, 2012 ~ 2015

Undergraduate Degree	Graduate Degree	Years Experience	Company Type	Position	Location
China	none	0	Major Bank	Trader	Chicago
Hong Kong	none	0	Consulting Company	Quant Associate	San Francisco
China	none	1	Rating Agency	Financial Engineer	New York
China	none	1	Asset Management Firm	Senior Associate	Boston
China	none	0	Major Bank	Desk Quant	New York
China	none	0	Major Bank	Desk Quant	New York
China	US	0	Major Bank	Desk Quant	New York
China	US	0	Asset Management	Analyst	New York
China	US	0	Major Bank	Quantitative Analyst	New York
China	US	3	Consulting Company	Senior Consultant	New York
China	none	3	Consulting Company	Consultant	New York
China	none	0	Major Bank	Risk Analyst	New York
China	none	5	Major Bank	AVP	New York
China	none	0	Major Bank	Desk Quant	New York
China	none	0	Major Bank	Trader	New York
China	none	0	Hedge Fund	Trader	Asia
China	none	0	Financial Services/Software	Quant	New York
China	none	0	Major Bank	Risk Analyst	New York
China	none	0	Major Bank	Financial Engineer	New York
China	none	0	Financial Services/Software	Financial Engineer	New York



## BARUCH MFE CHINESE STUDENTS JOB PLACEMENT STATISTICS, 2012 ~ 2015

### First Year Guaranteed Compensation (does not include year end bonus)

	<b>Average</b>	<b>High</b>	<b>Low</b>	<b>Median</b>
<b>US-based positions</b>	104,000	175,000	70,000	95,000
<b>Asia positions</b>	110,000			



## BARUCH MFE ADMISSION STATISTICS

Semester	Applicants	Admitted	Adm Rate	Enrolled	Yield	FT & PT	International
<b>Fall 2015</b>	<b>565</b>	<b>57</b>	<b>10%</b>	<b>43</b>	<b>75%</b>	<b>36 &amp; 7</b>	<b>30</b>
Fall 2014	510	48	9%	40	83%	32 & 8	26
Fall 2013	515	37	7%	27	73%	19 & 8	14
Fall 2012	640	37	6%	31	84%	23 & 8	13

	<b>Fall 2015</b>	Fall 2014	Fall 2013	Fall 2012
Number Applicants	<b>565</b>	510	515	640
Admitted Students	<b>57</b>	48	37	37
Admission Rate	<b>10%</b>	9%	7%	6%
GRE Quant – Admitted	<b>169</b>	168	167	166
GRE Verbal – Admitted	<b>158</b>	157	159	159
GRE Quant – All Applicants	<b>168</b>	166	165	164
GRE Verbal – All Applicants	<b>155</b>	154	155	158



## STUDENT BODY – DEGREES HELD

Semester	BS	MS or MBA	PhD
<b>Fall 2015</b>	<b>72%</b>	<b>16%</b>	<b>12%</b>
Fall 2014	50%	40%	10%
Fall 2013	56%	37%	7%
Fall 2012	70%	25%	5%
Fall 2011	57%	33%	10%
Fall 2010	59%	29%	12%





## STUDENT BODY – MAJORS

Semester	Engineering	Math	Financial Engineering	Economics	Finance Business	Physics	Computer Science	Other
<b>Fall 2015</b>	<b>14%</b>	<b>15%</b>	<b>0%</b>	<b>16%</b>	<b>25%</b>	<b>8%</b>	<b>10%</b>	<b>13%</b>
Fall 2014	10%	20%	6%	16%	19%	9%	10%	9%
Fall 2013	22%	24%	3%	8%	19%	5%	14%	5%
Fall 2012	15%	25%	7%	3%	25%	11%	14%	0%
Fall 2011	16%	29%	5%	7%	23%	9%	9%	0%
Fall 2010	32%	27%	0%	8%	8%	6%	20%	0%



# STUDENT BODY – GPA AND TEST SCORES

## Average GPA and Test Scores for Admitted Students

Semester	GPA		GRE			GMAT			
	Undergrad	Graduate	Quantitative	Verbal	Analytical	Quantitative	Verbal	Analytical	Total
<b>Fall 2015</b>	<b>3.69</b>	<b>3.77</b>	<b>169</b>	<b>158</b>	<b>3.5</b>	<b>50.6</b>	<b>32.8</b>	<b>4.8</b>	<b>698</b>
Fall 2014	3.66	3.78	168	157	3.7	49.6	38.7	4.8	727
Fall 2013	3.65	3.68	167	159	3.8	50.6	36.7	5.1	728
Fall 2012	3.59	3.70	166	159	3.9	49.2	36.8	4.6	706
Fall 2011	3.60	3.61	794	577	4.0	49.1	39.9	5.0	733
Fall 2010	3.54	3.62	794	575	4.3	50	34.4	4.6	704



# BARUCH MFE APPLICATION PROCESS

## ▪ No Target Number

- The Baruch MFE Program **does not have a target number for enrolled students**. No application is denied because of a lack of seats in the program, and no applicant is accepted to the program to fill a quota.

## ▪ Evaluation

- There will be four rounds of admissions for the Fall 2016 semester, with the following dates:
  - Round 1: November 15, 2015
  - Round 2: January 15, 2016
  - Round 3: February 15, 2016
  - Round 4: April 1, 2016
- All applications that are complete by one of the dates above will be evaluated at that time at least by two faculty members.
- Within approximately three weeks of the deadline for each round, interview invitations will be extended. Admission offers will typically be extended prior to the following application deadline.

## ▪ Prerequisites

- Calculus (two semesters)
- Probability (one semester)
- Linear Algebra (one semester)
- C++ (one semester or certificate)
- Finance (one semester, or relevant work experience)
- Only courses passed with a grade of B or better qualify as prerequisites.



# BARUCH MFE APPLICATION PROCESS

## ▪ Consistency

- The same admission standard for part-time and full-time applicants, as well as for US-based and for international applicants.
- All applicants must have a baccalaureate degree from an accredited four-year college in the United States or its equivalent in another country.

## ▪ Interviews

- Two interview rounds (in-person or over the phone) are part of the admission process before an admission offer to the Baruch MFE Program is made.
- The interviews are primarily technical, and include mathematical, finance, and C++ programming questions.

## ▪ Test Scores

- Every applicant must take either the General Test of the Graduate Record Examination (GRE) or the Graduate Management Admission Test (GMAT).
- The scores must be sent directly to Baruch College using the code **2012**.
- **TOEFL scores are not required.** The ability to communicate in English is assessed at the time of the admission interviews.

## ▪ Letters of Recommendation



# BARUCH MFE STUDENTS ARE HIGHLY EMPLOYABLE

- **High placement and salary figures**

- Full-time placement rate: 100% (21 of 21 for December 2014 and May 2015 graduates)
- Starting salary for December 2013 – May 2014 graduates: High \$150K; Low \$70K; Median \$95K; Average \$95K
- Summer internship placement rate: 100% (26 of 26 for 2015 summer internships)
- Summer internship monthly compensation: High \$10,500; Low \$3,300; Median \$7,200; Average \$6,800

- **Positions taken by graduates are challenging and highly regarded**

- Graduates with strong math and programming skills work on quant desks, as liaisons between, and support for, quantitative analysts and traders, or as research and data analysts
- Graduates with stronger financial background work in risk management or as financial analysts

## Select Placements of Baruch MFE students:



### Positions held

- Quantitative Researcher
- Financial Engineer
- Quantitative Analyst
- Quantitative Programmer
- Credit Modeler
- Structured Credit Analyst
- Risk Management Analyst
- Index Options Analyst
- MBS Modeler Analyst
- Credit IT Specialist
- Trading Systems Developer
- Electronic Trading Developer



# BARUCH MFE STUDENTS EMPLOYMENT STATISTICS

## First Year Guaranteed Compensation

Graduation Date	Graduates	Placement Rate	Did not look	High	Low	Median	Average
Dec 2014–May 2015	27	21 of 21	6	180K	85K	100K	111K
Dec 2013–May 2014	28	24 of 26	2	170K	70K	100K	109K
Dec 2012–May 2013	25	20 of 21	4	165K	70K	105K	113K
Dec 2011–May 2012	27	21 of 22	5	150K	70K	95K	101K
Dec 2010–May 2011	23	19 of 19	4	130K	75K	95K	96K

## First Year Starting Salary

Graduation Date	Graduates	Placement Rate	Did not look	High	Low	Median	Average
Dec 2014–May 2015	27	21 of 21	6	130K	75K	95K	95K
Dec 2013–May 2014	28	24 of 26	2	150K	70K	95K	100K
Dec 2012–May 2013	25	20 of 21	4	160K	70K	100K	103K
Dec 2011–May 2012	27	21 of 22	5	135K	70K	90K	95K
Dec 2010–May 2011	23	19 of 19	4	130K	75K	90K	93K

## First Year Starting Salary (no relevant prior work experience)

Graduation Date	Graduates	Placement Rate	Did not look	High	Low	Median	Average
Dec 2014–May 2015	14	14 of 14	0	125K	75K	95K	94K
Dec 2013–May 2014	15	15 of 15	0	140K	70K	90K	90K
Dec 2012–May 2013	12	12 of 12	0	125K	70K	95K	94K
Dec 2011–May 2012	14	13 of 14	0	100K	70K	85K	86K
Dec 2010–May 2011	14	14 of 14	0	105K	75K	90K	87K

<http://mfe.baruch.cuny.edu/employment-stats/>



# EMPLOYMENT FACTS AND FIGURES DECEMBER 2014 ~ MAY 2015 GRADUATES

- **Location**
  - New York: 90%
  - US (not New York): 10%
  
- **Employers by Type**
  - Investment banks 65%
  - Hedge funds 25%
  - Consulting 10%
  
- **Positions**
  - Associate, Financial Engineering
  - Associate, Quantitative Research
  - Associate, Strategies & Modeling
  - AVP, Quantitative Modeling
  - Analyst, Investment Banking
  - Analyst, Risk Management
  - Financial Engineer
  - Financial Software Developer
  - Junior Trader
  - Quantitative Analyst
  - VP, Securitized Products





# BARUCH MFE CHINESE STUDENTS

## with limited working experience

### JOB PLACEMENT STATISTICS, 2012 ~ 2015

Undergraduate Degree	Graduate Degree	Years Experience	Company Type	Position	Location
China	none	0	Major Bank	Desk Quant	New York
China	US	0	Major Bank	Desk Quant	New York
China	US	0	Asset Management	Analyst	New York
China	US	0	Major Bank	Quantitative Analyst	New York
China	US	3	Consulting Company	Senior Consultant	New York
China	none	3	Consulting Company	Consultant	New York
China	none	0	Major Bank	Risk Analyst	New York
China	none	5	Major Bank	AVP	New York
China	none	0	Major Bank	Desk Quant	New York
China	none	0	Major Bank	Trader	New York
China	none	0	Hedge Fund	Trader	Asia
China	none	0	Financial Services/Software	Quant	New York
China	none	0	Major Bank	Risk Analyst	New York
China	none	0	Major Bank	Financial Engineer	New York
China	none	0	Financial Services/Software	Financial Engineer	New York
China	US	0	Major Bank	Risk Associate	New York
China	US	0	Hedge Fund	Quant	New York
China	none	0	Major Bank	Desk Quant	New York
China	none	0	Major Bank	Risk Associate	New York
China	none	0	Major Bank	Desk Quant	New York





## BARUCH MFE CHINESE STUDENTS JOB PLACEMENT STATISTICS, 2011 ~ 2014

### First Year Guaranteed Compensation (does not include year end bonus)

	<b>Average</b>	<b>High</b>	<b>Low</b>	<b>Median</b>
<b>US-based positions</b>	104,000	175,000	70,000	95,000
<b>Asia positions</b>	110,000			



# BARUCH MFE STUDENTS INTERNSHIP STATISTICS

Internships Completed		Monthly Compensation			
		High	Low	Median	Average
<b>Summer 2015</b>	<b>26 of 26</b>	<b>10,500</b>	<b>3,300</b>	<b>7,200</b>	<b>6,800</b>
Summer 2014	19 of 19	8,900	3,300	6,700	6,600
Summer 2013	22 of 23	8,300	3,500	6,700	6,200
Summer 2012	19 of 20	8,300	3,300	6,700	6,300

<http://mfe.baruch.cuny.edu/internship-stats/>



# BARUCH MFE CHINESE STUDENTS INTERNSHIP STATISTICS, 2012 ~ 2015

US	none	Financial Services	Quantitative Research	New York	4,167
China	Canada	Major Bank	E-trading	New York	7,500
China	none	Major Bank	Quantitative Research	New York	7,500
US	none	Major Bank	Sales & Trading	New York	7,500
China	none	Hedge Fund	Financial Modeling	New York	5,750
China	none	Asset Management Firm	Financial Modeling	New York	6,042
China	US	Major Bank	Quantitative Research	New York	8,333
China	US	Hedge Fund	Quantitative Research	New York	4,500
US	none	Major Bank	Quantitative Analytics	New York	4,167
China	none	Major Bank	Quantitative Research	New York	6,250
China	US	Major Bank	Quantitative Research	New York	6,667
China	none	Consulting Company	Quantitative Advisory	New York	6,667
China	none	Financial Services	Financial Engineering	New York	4,167
China	US	Asset Management Firm	Financial Modeling	New York	6,042
China	none	Financial Services	Quantitative Research	New York	8,250
China	US	Major Bank	Quantitative Research	New York	8,750
China	none	Financial Services	Quantitative Research	New York	4,167
China	none	Major Bank	Quantitative Research	New York	8,000

Average	High	Low	Median
6,845	10,417	4,167	7,167

<http://mfe.baruch.cuny.edu/internship-stats/>



# BARUCH MFE SUMMER 2015 INTERNSHIP PLACEMENT

## Employers (selected)

- Bank of America Merrill Lynch
- BlackRock Solutions
- Citigroup
- Goldman Sachs
- JP Morgan
- Madison Paige Capital
- Morgan Stanley
- Numerix
- PwC
- S&P
- State Street

## Location

- ❖ New York 92%
- ❖ US (not New York) 8%

<http://mfe.baruch.cuny.edu/internship-stats/>



## BARUCH MFE “FAMILY” AND ALUMNI NETWORK FURTHER STRENGTHEN THE PROGRAM

- **The Baruch MFE Alumni Association – the only organization of its kind in New York area**
  - Created in October 2006, over 50% of all our alumni at that time participated, including alumni coming from London and Chicago
  - Bi-annual alumni reunions organized by the Alumni Association, high attendance by alumni and
  - The Alumni Seminar Series was launched in Fall 2007
  - Over 100 people participated to the Baruch MFE Town Hall Meeting in March 2009
  
- **Salih Neftci Memorial Scholarship**
  - Over 105 of 190 all-time Baruch MFE alumni and students donated \$30,000 to endow in perpetuity a scholarship honoring the memory of Salih Neftci, a foremost financial engineering professor and former instructor in the Baruch MFE Program
  
- **Ongoing support and assistance to current cohorts**
  - Unique one-on-one mentoring program is offered by the Alumni Association to current students
  - Annual Programming Workshop Series (Python, SQL, R, VBA) – offered free of charge to alumni and current students
  - Alumni help prepare students for the RITC and IAQF competitions
  - Assistance with job placement and guidance



## SUMMER REFRESHER SEMINARS

We offer students admitted to the Baruch MFE Program the opportunity of taking some or all of the refresher seminars. In cases, taking some or all of the seminars are mandatory. **These advanced seminars are not for credit and are closed to people not admitted in the MFE program.** They are challenging and fast paced, and cover a number of important financial applications.

### 2015 Summer Refresher Seminars

- **Advanced Calculus for Financial Engineering**, July 2015
- **Probability and Elements of Real Analysis**, July 2015
- **Statistics for Financial Engineering**, August 2015
- **Numerical Linear Algebra for Financial Applications**, August 2015



## **BARUCH MFE C++ CERTIFICATE**

### **Baruch MFE C++ Programming for Financial Engineering Online Certificate**

- Began in 2012; completed by over 500 students so far from over 20 countries
- Content by Dr. Daniel Duffy; offered through QuantNet
- Each student is assigned an individual teaching assistant (usually Baruch MFE alum)
- 35% of current Baruch MFE students completed the C++ certificate
- 20% of the people completing the certificate in 2015 located in China
- Over 60% of all the people completing the certificate are Chinese

### **Baruch MFE Advanced C++ Programming with Multidisciplinary Applications**

- Content by Dr. Daniel Duffy; offered through QuantNet
- Expected launch date: March 2016



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