

2019 AOL Report

## Master of Financial Engineering (MFE) Program

---

Master of Financial Engineering (MFE) program is specialization in financial engineering and quant. The MFE program provides human resource training focused on quantitative asset management, derivatives, risk management, financial analytics, on-site problem-solving skills as well as understanding of global practice. The students in the MFE program are required to have analytical and research skill that can be applied in actual practices via thesis writing.

### Overall Review

Learning Goals are divided into four parts. Respectively, L1 is to evaluate analytical thinking that whether our students can solve problems or not. L2 is about research qualification to measure research skills. L3 is communication which is simple but important when they work with others. L4 is global perspective making students understand global trend.

Averagely, Students meet expectations except L3. The scores of L1, L2, L3, L4 are 2.293, 2.445, 1.751 and 2.279. The highest average score is L2 which is Research Qualification. It means they have the good research ability as well as background knowledge. However, they have the lowest point at L3. the ratio of point 3 in none of L3 is 0%. L3 is a measurement of communication. Collectively, as an individual, they are good enough but as a team, they are not enough. It seems they should be trained to develop communication skills.

- Total number of courses: 52 (Spring: 18, Summer: 3, Fall: 31)
- Total number of graduates: 49
- Total number of enrollment: 101 (1<sup>st</sup>: 46, 2<sup>nd</sup>.:55)
- Sample: more than 8 (Necessary sample: 15% of graduates 49 = 7.35)
- Assessment courses

Learning Goal 1	L11	FE513_ Portfolio Optimization and Management
	L12	FE513_ Portfolio Optimization and Management
Learning Goal 2	L21	FE522_Advanced Econometric Analysis for Finance
	L22	FE522_Advanced Econometric Analysis for Finance
Learning Goal 3	L31	FE567_Financial Data Analysis with Big data
	L32	FE567_Financial Data Analysis with Big data
	L33	FE567_Financial Data Analysis with Big data
Learning Goal 4	L41	FE617_Distinguished Lectures In Asset Management
	L42	FE617_Distinguished Lectures In Asset Management

**Overview of Assessment**

<b>Master of Financial Engineering Program: Assessment Learning Goal 1</b>		
Learning Goal 1) Analytical Thinking: Our graduates will command analytical thinking in solving complex financial decision problems.		
<b>Learning Objective</b>	<b>Sample</b>	<b>Methods</b>
L11) Graduate will have basic quantitative skills for research.	Students enrolled in FE513. (N=33)*	Test evaluation by faculty
L12) Graduate will use appropriate quantitative analytical techniques to identify problems in finance and develop a solution.	Students enrolled in FE513. (N=33)*	Test and assignment evaluation by faculty
<b>Findings</b>		
<ul style="list-style-type: none"> <li>- The average score for L11 and L12 are 2.261 and 2.325. *1 (Fails to Meet Expectations) 2 (Meets Expectations) 3 (Exceed Expectations)</li> <li>- All traits in L11 and L12 meet expectations successfully.</li> <li>- On Trait 2(Identification of research problem) in L11 (Graduate will have basic quantitative skills for research.), Students have the most difficulties with point 2.091. 24.2% (8/33) of students achieved more than expectations that it is the smallest number of 3 point in all traits of L1 and 15.2% (5/33) of students failed in meeting expectations that it is the largest number of 1 point in all traits of L1.</li> <li>- On L12 (Graduate will use appropriate quantitative analytical techniques to identify problems in finance and develop a solution.), Students have relatively weak understanding with identification of case problems/issues (Trait4).</li> </ul>		

<b>Master of Financial Engineering Program: Assessment Learning Goal 2</b>		
Learning Goal 2) Research Qualification: Our graduates will have skills (or ability) to conduct quality research.		
<b>Learning Objective</b>	<b>Sample</b>	<b>Methods</b>
L21) Graduate will engage in management research and present the findings of such research effectively.	Students enrolled in FE522. (N=10)*	Test evaluation by faculty
L22) Graduate will have basic theory, analytical research tools, and background about their research areas.	Students enrolled in FE522. (N=10)*	Test evaluation by faculty
<b>Findings</b>		
<ul style="list-style-type: none"> <li>- The average score for L21 and L22 are 2.44 and 2.45. *1 (Fails to Meet Expectations) 2 (Meets Expectations) 3 (Exceed Expectations)</li> <li>- L21 and L22 both meet expectations successfully.</li> <li>- On L21 (Graduate will engage in management research and present the findings of such research effectively.), our students have the 2.6 point at Trait 4(Illumination: “solution finding”) which is the highest score in all traits of L2. On other traits, they have averagely 2.4 point which means they meet expectations.</li> <li>- On L22(Graduate will have basic theory, analytical research tools, and background about their research areas.), each one student fails to meet expectation in understanding theory(T1) and currently important issues on research area(T4)</li> </ul>		

<b>Master of Financial Engineering Program: Assessment Learning Goal 3</b>		
Learning Goal 3) Communication: our graduates will be effective communicators.		
<b>Learning Objective</b>	<b>Sample</b>	<b>Methods</b>
L31) Graduate will produce professional business documents.	Students enrolled in FE567. (N=17)*	Term paper evaluation by faculty
L32) Graduate will deliver effective presentation accompanied with proper media technology.	Students enrolled in FE567. (N=17)*	Presentation evaluation by faculty
L33) Graduate will demonstrate effective interpersonal communication in a team setting.	Students enrolled in FE567. (N=17)*	Presentation evaluation by faculty
<b>Findings</b>		
<ul style="list-style-type: none"> <li>- The average score for L31, L32 and L33 are 1.676, 1.843 and 1.735 *1 (Fails to Meet Expectations) 2 (Meets Expectations) 3 (Exceed Expectations)</li> <li>- All traits in L3 are less than expectations. Averagely L32 is the highest score.</li> <li>- Only at trait 5(Professionalism) in L32 (Graduate will deliver effective presentation accompanied with proper media technology.), students meet expectation.</li> <li>- The ratio of exceeded expectation (score 3) for L31, L32 and L33 is 0%. It means there is no one exceeds expectations all traits for L3.</li> <li>- 47.1% (8/17) of students have difficulties on trait 5(Consistent conclusion) in L31 (Graduate will produce professional business documents.).</li> </ul>		

<b>Master of Financial Engineering Program: Assessment Learning Goal 4</b>		
Learning Goal 4) Global Perspective: Our graduates will have a global perspective.		
<b>Learning Objective</b>	<b>Sample</b>	<b>Methods</b>
L41) Graduate will understand global business issues and relate current issues to emerging business opportunities.	Students enrolled in FE617. (N=49)*	Test evaluation by faculty
L42) Graduate will have command of business English or other language of global financial markets.	Students enrolled in FE617. (N=49)*	Class participation evaluation by faculty and OPI evaluation
<b>Findings</b>		
<ul style="list-style-type: none"> <li>- The average score for L41 and L42 are 2.218 and 2.340 *1 (Fails to Meet Expectations) 2 (Meets Expectations) 3 (Exceed Expectations)</li> <li>- L41 and L42 meet expectations successfully.</li> <li>- 28.6% (14/49) of students have most difficulties in trait 3(application of analysis to global business situation) on L41 (Graduate will understand global business issues and relate current issues to emerging business opportunities.).</li> <li>- 18.4% (9/49) of students failed in meeting expectations in trait 2(comprehension) on L42.</li> </ul>		

**Data Analysis and Results**

**L11: Graduate will have basic quantitative skills for research.**

<b>T1. Logic and organization</b>	<b>T2. Identification of research problems</b>	<b>T3. Effective literature search skills</b>	<b>T4. Application of quantitative tools</b>	<b>T5. Consistent conclusions</b>
<b>33</b>	<b>33</b>	<b>33</b>	<b>33</b>	<b>33</b>
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
3	3	3	3	3
3	2	2	2	3
3	2	3	3	3
3	2	3	3	3
3	2	2	2	3
3	2	3	3	3
3	2	2	3	3
2	2	2	2	2
2	2	2	2	2
2	2	2	2	2
2	2	1	2	2
2	2	2	2	2
2	2	2	2	2
2	2	2	2	2
2	2	2	2	2
2	2	2	2	2
2	2	2	2	2
2	2	2	2	2
2	2	1	2	2
2	2	1	2	2
2	2	2	1	2
1	1	2	2	1
1	1	2	2	1
1	1	2	2	1
<b>14</b>	<b>8</b>	<b>11</b>	<b>12</b>	<b>14</b>
<b>16</b>	<b>20</b>	<b>18</b>	<b>20</b>	<b>16</b>
<b>3</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>3</b>
<b>77</b>	<b>69</b>	<b>73</b>	<b>77</b>	<b>77</b>
<b>2.333</b>	<b>2.091</b>	<b>2.212</b>	<b>2.333</b>	<b>2.333</b>
<b>2.261</b>				



**L21: Graduate will engage in management research and present the findings of such research effectively.**

T1. Preparation: "fact finding"	T2. Preparation: "problem/objective finding"	T3. Incubation: "idea finding"	T4. Illumination: "solution finding"	T5. Verification: "acceptance finding"
10	10	10	10	10
2	2	3	3	3
3	3	3	3	3
3	2	3	2	3
2	3	3	3	2
3	2	2	3	3
3	3	3	3	3
2	3	2	3	2
2	2	2	2	2
2	2	2	2	1
2	2	1	2	2
4	4	5	6	5
6	6	4	4	4
0	0	1	0	1
24	24	24	26	24
2,400	2,400	2,400	2,600	2,400
2,440				



**L22: Graduate will have basic theory, analytical research tools, and background about their research areas.**

<b>T1. Understanding Theory</b>	<b>T2. Application of Theory</b>	<b>T3. Proper use of effective research tools</b>	<b>T4. Understanding currently important issues on research area</b>
10	10	10	10
3	2	3	2
3	3	3	3
2	2	3	3
2	3	2	3
3	3	2	3
3	3	3	3
3	2	3	2
3	2	2	2
1	2	2	2
2	2	2	1
6	4	5	5
3	6	5	4
1	0	0	1
25	24	25	24
2.500	2.400	2.500	2.400
2.450			

**L31: Graduate will produce professional business documents.**

<b>T1. Clear introduction and background</b>	<b>T2. Discipline-related concepts and issues</b>	<b>T3. Internally consistent arguments</b>	<b>T4. Logic and organization</b>	<b>T5. Consistent conclusions</b>	<b>T6. Style and grammar</b>	<b>T7. Effective literature search skills</b>	<b>T8. Documents sources</b>
17	17	17	17	17	17	17	17
2	2	3	2	2	2	3	2
2	2	2	3	2	3	2	2
2	3	2	2	2	2	2	3
2	2	2	2	2	2	2	2
2	1	2	1	1	2	2	2
1	1	1	1	1	1	1	1
1	1	1	1	1	1	1	1
1	1	1	2	1	1	1	1
1	2	2	2	1	1	2	2
2	2	1	2	2	2	1	1
3	2	2	2	3	2	2	2
2	2	2	1	2	2	1	2
2	1	2	2	1	2	1	1
2	2	3	2	2	3	2	2
2	2	1	1	2	2	2	1
1	1	1	2	1	1	1	2
1	1	1	1	1	1	2	1
1	1	2	1	1	2	1	1
10	9	8	10	8	9	9	9
6	7	7	6	8	6	7	7
29	28	29	29	27	30	28	28
1.706	1.647	1.706	1.706	1.588	1.765	1.647	1.647
1.676							

**L32: Graduate will deliver effective presentation accompanied with proper media technology.**

T1. Organization	T2. Quality of slides	T3. Voice quality and pace	T4. Mannerisms	T5. Professionalism	T6. Use of media/rapport with audience
17	17	17	17	17	17
2	2	3	2	2	2
2	2	2	3	2	3
2	2	2	2	2	2
2	2	2	2	2	2
2	3	2	1	3	2
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	2	1	1
1	2	2	2	1	1
2	3	1	3	2	2
3	2	3	2	3	2
2	2	2	1	2	2
2	1	2	2	1	2
3	2	2	2	3	2
2	2	1	1	2	2
2	2	3	2	3	1
2	2	1	1	3	1
2	2	3	2	5	1
11	11	8	9	7	10
4	4	6	6	5	6
32	32	31	30	34	29
1.882	1.882	1.824	1.765	2.000	1.706
1.843					

**L33: Graduate will demonstrate effective interpersonal communication in a team setting.**

<b>T1. Commitment</b>	<b>T2. Balance between task and interpersonal relations</b>	<b>T3. Contributions</b>	<b>T4. Stays on track</b>
17	17	17	17
1	2	2	2
2	2	2	2
2	2	2	2
2	2	2	2
2	2	2	1
1	2	1	1
1	2	1	1
1	1	1	2
1	2	2	2
2	2	1	2
2	2	2	2
2	2	2	1
2	1	2	2
2	2	2	2
2	2	1	1
2	2	3	2
2	2	1	1
0	0	1	0
12	15	10	11
5	2	6	6
29	32	29	28
<b>1.706</b>	<b>1.882</b>	<b>1.706</b>	<b>1.647</b>
<b>1.735</b>			

L41: Graduate will understand global business issues and relate current issues to emerging business opportunities.		
T1. Understanding of global issues	T2. Analysis of global issues	T3. Application of analysis to global business situation
49	49	49
1	1	1
2	2	3
3	3	1
2	2	2
2	3	3
2	3	3
3	2	2
3	2	3
2	3	2
2	1	1
3	3	2
3	3	3
3	3	2
2	2	1
3	3	3
1	1	1
3	2	2
3	3	2
2	3	2
3	3	2
3	2	2
3	2	3
3	3	3
3	3	2
3	3	2
3	3	3
3	3	2
3	3	2
3	2	2
2	2	1
2	2	1
3	3	3
3	2	3
1	1	1
3	3	3
1	3	2
3	2	2
2	2	1
1	2	2
2	3	2
1	2	2
1	1	1
2	3	3
2	3	2
2	2	2
2	2	1
2	2	1
1	1	1
3	2	1
24	23	13
17	20	22
8	6	14
114	115	97
2.327	2.347	1.980
2.218		

<b>L42: Graduate will have command of business English or other language of global financial markets.</b>		
<b>T1. Knowledge</b>	<b>T2. Comprehension</b>	<b>T3. Communication</b>
<b>49</b>	<b>49</b>	<b>49</b>
1	1	2
2	3	3
2	2	2
2	1	2
3	2	3
3	3	3
2	3	2
3	3	3
3	3	3
2	2	2
2	3	2
3	3	3
3	3	2
2	2	1
3	3	3
1	1	2
2	3	2
3	3	3
2	2	2
3	3	3
3	3	2
3	3	3
3	3	3
3	3	3
3	3	3
3	3	3
3	3	3
3	3	3
2	2	3
2	2	2
2	2	2
3	3	3
3	3	3
1	1	2
3	3	3
2	1	1
3	3	1
2	2	2
1	1	2
3	3	3
2	1	1
1	1	1
3	2	3
2	2	2
2	2	1
2	2	2
2	2	1
2	1	2
2	3	2
<b>23</b>	<b>26</b>	<b>22</b>
<b>21</b>	<b>14</b>	<b>20</b>
<b>5</b>	<b>9</b>	<b>7</b>
<b>116</b>	<b>115</b>	<b>113</b>
<b>2.367</b>	<b>2.347</b>	<b>2.306</b>
	<b>2.340</b>	