

## **AOL Report Graduate School of Innovation and Technology Management Assessment (2017)**

KAIST graduate school of Innovation and Technology Management (I&TM) provides global learning environment for students to grow and lead in innovation and tech-management through collaboration with distinguished faculty and internationally recognized institutions. The program's curriculum focuses on developing skills for entrepreneurship, commercialization and problem solving that serves as key foundation for creating innovative values to many diverse technology-based companies.

- Total Courses: 33 (Spring 2017: 18 / Fall 2017: 15)
- Total Enrollment: Spring 118 / Fall 121 (Master: 79/83, PhD.: 39/38)
- Number of Graduates: 43 (Master: 38, PhD: 5)
- Sample: 14~24 (15% of 43 = 6.45)
- Assessment Course:

Learning Goal 1	L11	ITM634 Innovation Ecosystem
	L12	
Learning Goal 2	L21	ITM505 Marketing Management
	L22	
Learning Goal 3	L31	ITM662 Architecture Innovation and Monozukuri
	L32	ITM633 The Knowledge Industry
Learning Goal 4	L41	ITM540 Strategy for Innovative Business
	L42	

**Overview of Assessment**

<b>Graduate School of I&amp;TM Assessment: Learning Goal 1</b>		
<b>Learning Goal: Our graduates will be able to apply critical, innovative, and strategic thinking in a dynamic business environment.</b>		
<b>Learning Objective</b>	<b>Sample</b>	<b>Methods</b>
<p>(L11) Our students will have the ability to identify and analyze complex problems from multiple perspectives.</p> <p>(L12) Our students will be able to apply innovative and strategic solutions to organizational problems.</p>	<p>Students enrolled in ITM634 (N = 24)</p>	<p>-(L11) Course-embedded survey</p> <p>- (L12) Course-embedded survey</p>
<p><b>Findings</b></p> <p>-Using course-embedded survey for L11 and L12, the average scores exceeded 2 (meet the expectation); the scores for L11 and L12 were 2.60 and 2.51 respectively.</p> <p>- Average score of Trait 4.2. is 2.33 which is relatively lower than other Traits in L12. Thus it seems that there is a room for improvement in students’ understanding on the ‘evaluation of alternatives’ generated in Trait 3 on the organizational problems.</p> <p>- The overall score implies that most students were able to apply critical, innovative, and strategic thinking in a dynamic business environment through I&amp;TM courses.</p> <p>*1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations</p>		

**Graduate School of I&TM Assessment: Learning Goal 2**

**Learning Goal: Our graduates will acquire the communication skills needed to function effectively.**

<b>Learning Objective</b>	<b>Sample</b>	<b>Methods</b>
<p>(L21) Our students will communicate effectively in written document and/or oral presentations.</p> <p>(L22) Our students will diagnose and communicate management problems.</p>	<p>Students enrolled in ITM505 (N = 23)</p>	<p>-(L21) Project reports evaluation</p> <p>- (L22) Case study evaluation</p>

**Findings**

-Using the instructor’s assessment of students’ performance for L21 and L22, the average scores exceeded 2 (meet the expectation); the scores for L21 and L22 were 2.42 and 2.33 respectively.

- Trait 2 of L21’s average score is 1.6. Therefore it is lowest among other Traits and it does not meet the expectation. Therefore training is required for improving students’ grammar and sentence structure of written document for effective communications.

- Trait 3.1 of L22’s average score is 2.13 which is relatively lower than other Traits in L22. There is a room for improvement need in solution proposal ability of students.

- The overall score implies that most students were able to communicate effectively both orally and through written medium through I&TM courses.

\*1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

**Graduate School of I&TM Assessment: Learning Goal 3**

**Learning Goal: Our graduates will be competent and effective leaders.**

<b>Learning Objective</b>	<b>Sample</b>	<b>Methods</b>
<p>(L31) Our students will be able to work effectively in a team environment.</p> <p>(L32) Our students will understand ethical and social issues in organizations.</p>	<p>Students enrolled in ITM662 (N = 14)</p> <p>ITM633 (N = 17)</p>	<p>-(L31) Course-embedded survey</p> <p>- (L32) Course-embedded survey</p>

**Findings**

-Using course-embedded survey for L31 and L32, the average scores exceeded 2 (meet the expectation); the scores for L31 and L32 were 2.60 and 2.76 respectively.

- The overall score implies that most students will develop into competent and effective leaders through I&TM courses.

\*1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

**Graduate School of I&TM Assessment: Learning Goal 4**

**Learning Goal: Our graduates will acquire knowledge related to business innovation and technology management.**

Learning Objective	Sample	Methods
<p>(L41) Our students will be able to develop technology strategy to aid a wide range of corporate management decisions.</p> <p>(L42) Our students recognize the importance of technology in business innovation.</p>	<p>Students enrolled in ITM540 (N = 15)</p>	<p>-(L41) Course-embedded survey</p> <p>- (L42) Course-embedded survey</p>

**Findings**

-Using course-embedded survey for L41 and L42, the average scores exceeded 2 (meet the expectation); the scores for L31 and L32 were 2.68 and 2.67 respectively.

- The overall score implies that most students will acquire knowledge related to business innovation and technology management through I&TM courses.

\*1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

**Data Analysis and Results**

<b>Assessment Learning Goal 1(L11) : ITM634</b>			
<b>- Using course-embedded survey -</b>			
<b>L11 (Trait)</b>			
<b>Student No.</b>	<b>T1</b>	<b>T2</b>	<b>T3</b>
1	2	3	2
2	3	3	3
3	3	2	3
4	3	3	2
5	3	3	3
6	3	3	3
7	3	2	3
8	2	1	2
9	3	3	3
10	3	2	2
11	3	3	2
12	3	3	3
13	2	2	2
14	2	3	3
15	2	2	2
16	3	3	3
17	3	2	3
18	3	2	3
19	2	2	2
20	3	2	3
21	2	3	2
22	2	2	3
23	3	3	3
24	3	3	3
3 point total	10	3	7
2 point total	3	4	6
1 point total	0	1	0
Mean	2.67	2.5	2.62
Overall Mean	2.60		

\*Criteria: 1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

\*Unit: Score (Trait) Person (Point)

Assessment Learning Goal 1(L12) : ITM634 - Using course-embedded survey -									
L12 (Trait)									
Student No.	T1	T2	T3	T4.1	T4.2	T4.3	T5.1	T5.2	T5.3
1	2	2	2	2	2	3	3	2	3
2	3	2	3	3	3	3	3	3	3
3	3	2	3	3	2	3	3	2	3
4	2	3	3	3	3	3	3	3	2
5	3	3	3	3	3	3	3	3	3
6	2	2	3	3	3	3	3	3	3
7	2	3	2	2	2	2	3	2	2
8	1	1	1	1	1	1	1	1	1
9	3	3	3	3	3	3	3	3	3
10	3	3	2	2	2	2	3	3	3
11	3	3	2	2	2	2	2	1	2
12	3	3	3	2	2	3	3	2	3
13	2	2	2	2	2	2	2	2	2
14	3	2	2	2	2	3	3	2	2
15	3	2	2	3	2	2	3	2	3
16	3	3	3	3	3	3	3	3	3
17	3	3	3	3	3	3	3	3	3
18	2	3	3	3	2	2	3	3	2
19	2	2	2	2	2	2	2	2	2
20	2	3	3	3	2	2	3	3	2
21	2	2	2	2	2	2	2	2	2
22	2	2	3	3	2	2	3	2	3
23	3	3	2	3	3	3	3	3	3
24	3	3	3	3	3	3	3	3	3
3 point total	7	7	7	6	5	8	10	6	8
2 point total	4	4	4	5	6	3	1	4	3
1 point total	1	1	1	1	1	1	1	2	1
Mean	2.5	2.5	2.5	2.54	<u>2.33</u>	2.5	2.75	2.41	2.54
Overall Mean	2.51								

\*Criteria: 1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

\*Unit: Score (Trait) Person (Point)

Assessment Learning Goal 2(L21) : ITM505 - Using assessment by professor -											
L21 (Trait)											
Student No.	T1.1	T1.2	T1.3	T2	T3.1	T3.2	T4.1	T4.2	T5.1	T5.2	T6
1	3	3	2	2	3	3	2	2	3	2	3
2	3	3	2	2	3	3	2	2	3	2	3
3	3	3	2	2	3	3	2	2	3	2	3
4	3	3	2	2	3	3	2	2	3	2	3
5	3	3	2	2	3	3	2	2	3	2	3
6	2	2	2	1	2	3	2	3	3	3	2
7	2	2	2	1	2	3	2	3	3	3	2
8	2	2	2	1	2	3	2	3	3	3	2
9	2	2	2	1	2	3	2	3	3	3	2
10	2	2	2	1	2	3	2	3	3	3	2
11	3	2	2	2	3	3	2	2	3	2	3
12	3	2	2	2	3	3	2	2	3	2	3
13	3	2	2	2	3	3	2	2	3	2	3
14	3	2	2	2	3	3	2	2	3	2	3
15	2	2	2	1	1	2	2	2	2	2	2
16	2	2	2	1	1	2	2	2	2	2	2
17	2	2	2	1	1	2	2	2	2	2	2
18	2	2	2	1	1	2	2	2	2	2	2
19	3	3	3	2	3	3	3	3	3	3	3
20	3	3	3	2	3	3	3	3	3	3	3
21	3	3	3	2	3	3	3	3	3	3	3
22	3	3	3	2	3	3	3	3	3	3	3
23	3	3	3	2	3	3	3	3	3	3	3
3 point total	14	10	5	0	14	19	5	10	19	10	14
2 point total	9	13	18	14	5	4	18	13	4	13	9
1 point total	0	0	0	<u>9</u>	4	0	0	0	0	0	0
Mean	2.6	2.43	2.22	<u>1.6</u>	2.43	2.83	2.22	2.43	2.83	2.43	2.6
Overall Mean	2.42										

\*Criteria: 1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

\*Unit: Score (Trait) Person (Point)



Assessment Learning Goal 2(L22) : ITM505				
- Using assessment by professor -				
L22 (Trait)				
Student No.	T1	T2	T3.1	T3.2
1	2	2	2	2
2	2	2	2	2
3	3	2	3	3
4	3	3	3	3
5	2	1	1	1
6	2	3	2	3
7	2	3	2	2
8	2	2	3	2
9	2	2	3	2
10	3	2	3	3
11	2	2	2	2
12	2	2	2	2
13	3	3	2	3
14	3	3	2	3
15	3	3	2	3
16	2	2	2	2
17	2	1	1	2
18	3	3	2	3
19	2	1	1	2
20	3	3	2	3
21	3	3	2	3
22	2	2	2	2
23	3	3	3	3
3 point total	10	10	6	11
2 point total	13	10	14	11
1 point total	0	3	3	1
Mean	2.43	2.3	<u>2.13</u>	2.43
Overall Mean	2.33			

\*Criteria: 1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

\*Unit: Score (Trait) Person (Point)

<b>Assessment Learning Goal 3(L31) : ITM662</b>							
<b>- Using course-embedded survey -</b>							
<b>L31 (Traits)</b>							
<b>Student No.</b>	<b>T1.1</b>	<b>T1.2</b>	<b>T2.1</b>	<b>T2.2</b>	<b>T2.3</b>	<b>T3</b>	<b>T4</b>
1	2	3	3	2	2	3	3
2	3	2	3	2	3	3	2
3	3	3	2	2	3	2	2
4	3	3	3	3	3	3	3
5	3	3	2	2	3	3	3
6	2	2	2	2	2	2	3
7	3	3	2	3	3	3	2
8	2	3	3	2	2	2	2
9	2	3	2	3	3	2	3
10	3	2	3	3	3	2	3
11	3	3	3	3	3	3	3
12	2	2	3	2	2	3	2
13	3	3	2	2	2	2	3
14	3	3	3	3	3	3	3
3 point total	9	10	8	6	9	8	9
2 point total	5	4	6	8	5	6	5
1 point total	0	0	0	0	0	0	0
Mean	2.64	2.71	2.57	2.43	2.64	2.57	2.64
Overall Mean	2.60						

\*Criteria: 1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

\*Unit: Score (Trait) Person (Point)

<b>Assessment Learning Goal 3(L32) : ITM633</b>				
<b>- Using course-embedded survey -</b>				
	<b>L32 (Traits)</b>			
<b>Student No.</b>	<b>T1</b>	<b>T2.1</b>	<b>T2.2</b>	<b>T3</b>
1	3	3	3	3
2	3	3	3	3
3	3	3	3	3
4	3	3	3	3
5	3	3	3	3
6	3	3	3	3
7	3	3	3	3
8	3	3	3	3
9	3	3	3	3
10	2	3	3	3
11	2	2	2	2
12	2	2	2	2
13	2	2	2	3
14	3	3	3	3
15	3	3	3	3
16	2	2	3	3
17	2	3	2	3
3 point total	11	13	13	15
2 point total	6	4	4	2
1 point total	0	0	0	0
Mean	2.65	2.76	2.76	2.88
Overall Mean	2.76			

\*Criteria: 1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

\*Unit: Score (Trait) Person (Point)

<b>Assessment Learning Goal 4(L41) : ITM540</b>					
<b>- Using course-embedded survey -</b>					
<b>L41 (Traits)</b>					
<b>Student No.</b>	<b>T1</b>	<b>T2</b>	<b>T3</b>	<b>T4</b>	<b>T5</b>
1	3	3	3	2	3
2	3	3	2	3	3
3	2	3	3	2	2
4	2	3	3	3	3
5	2	3	3	3	2
6	3	3	3	3	3
7	3	3	3	3	3
8	3	3	3	2	3
9	3	3	3	3	2
10	3	3	3	3	3
11	3	3	3	2	2
12	2	2	3	2	2
13	2	2	3	2	2
14	3	3	3	3	3
15	2	2	2	2	3
3 point total	9	12	13	8	9
2 point total	6	3	2	7	6
1 point total	0	0	0	0	0
Mean	2.6	2.8	2.87	2.53	2.6
Overall Mean	2.68				

\*Criteria: 1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

\*Unit: Score (Trait) Person (Point)

<b>Assessment Learning Goal 4(L42) : ITM540</b>					
<b>- Using course-embedded survey -</b>					
<b>L42 (Traits)</b>					
<b>Student No.</b>	<b>T1</b>	<b>T2.1</b>	<b>T2.2</b>	<b>T3</b>	<b>T4</b>
1	3	3	3	3	3
2	3	3	3	3	3
3	3	2	2	3	3
4	2	3	2	3	3
5	2	3	2	3	3
6	3	3	3	3	3
7	3	3	3	3	3
8	2	3	3	2	2
9	3	3	2	3	3
10	3	3	3	3	3
11	3	3	3	3	2
12	3	2	2	2	3
13	2	2	2	2	2
14	2	3	2	3	2
15	2	2	2	3	3
3 point total	9	11	7	12	11
2 point total	6	4	8	3	4
1 point total	0	0	0	0	0
Mean	2.6	2.73	2.47	2.8	2.73
Overall Mean	2.67				

\*Criteria: 1 = Fails to Meet Expectations, 2 = Meets Expectations, 3 = Exceeds Expectations

\*Unit: Score (Trait) Person (Point)

## **Overall Summary of Findings**

Four learning goals have been established for Graduate School of I&TM to achieve learning objectives. The results of Assurance of Learning (AOL) assessments show that in general all of the 4 learning goals of I&TM meet expectations; the overall average score for each learning goal was 2.55, 2.37, 2.68, and 2.67 from L1 to L4 respectively. In particular, students have shown competent and effective leadership and acquired knowledge in business innovation and technology management. However, students have acquired relatively less effective communication skills especially in writing. Overall, it is likely that I&TM students have been trained well based on the learning goals of the program.

## **Limitation**

Although the number of samples collected for this survey was sufficient to support the outcomes reported below, the different number and rates of responses among classes could bias the outcomes.