Table E-III-1 2010 Assessment Summary

Assessment Metric Summary

Calendar Year **2010**

Outcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
a	(a) Apply knowledge of math, science, and engineering	Proficient in Fundamental Concepts and Skills	Proficient in Theoretical and Practical Relationships	Proficient in Basic Science		Instrument Average	
#Totals/		4.67	4.29	3.81		Max	4.22
288		4.22	3.35	3.39		Ave	3.65
14		3.81	1.75	3.07		Min	3.35
b	(b) Design and Conduct experiments Analyze and interpret data and information	Conducts the design of experiments.	Operates equipment and collects data for analysis.	Compares results for experimental measurements to the literature and conducts interpretation of results in written reports.	Is able to collect global information and to use this information in evaluation and interpretation of laboratory data	Instrument Average	
#Totals/		4.17	4.50	4.00	3.84	Max	4.16
224		3.97	4.16	3.76	3.04	Ave	3.73
17		3.80	3.93	3.00	1.00	Min	3.04
c	(c) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process in engineering design	Recognize and observe constraints in engineering design	Instrument Average	
#Totals/		4.27	5.00	4.34	4.79	Max	4.50
148		3.56	4.50	3.91	3.86	Ave	3.96
12		2.60	4.20	3.40	3.40	Min	3.56
d	(d) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and Receptiveness Skills		Instrument Average	
#Totals/		4.80	4.40	4.27		Max	4.04
119		4.03	4.04	3.84		Ave	3.97
9		3.40	3.40	3.40		Min	3.84
e	(e) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Instrument Average	
#Totals/		4.71	4.57	4.42		Max	4.22
313		4.22	4.17	3.46		Ave	3.95
14		3.74	3.37	1.55		Min	3.46
f	(f) Know professional and ethical responsibilities and practices	Carries out responsibilities in a professional and ethical manner	Understands basic engineering principles and practices, in terms of professional ethics and behavior			Instrument Average	
#Totals/		4.40	4.67			Max	4.30
72		4.30	4.04			Ave	4.17
7		4.20	3.00			Min	4.04
g	(g) Communicate effectively	The content of the written or oral presentation is effective.	The organization of memorandum and technical reports is consistent with styles accepted by the person's primary professional engineering society.	The design of slides shows an understanding of vision limitation of the audience and the total time the presenter plans to spend on the visual aid during oral presentations.		Instrument Average	
#Totals/		4.76	4.67	4.20		Max	4.24
208		4.24	4.04	3.93		Ave	4.07
14		3.67	3.57	3.53		Min	3.93
h	(h) Know engineering's global societal context	Has the broad education necessary to understanding impact of engineering solutions in global and societal context	Awareness of contemporary state of knowledge and relationship to engineering solutions	Recognizes the need to be aware of societal issues especially those that can be engaged by engineering solutions		Instrument Average	
#Totals/		4.00	4.20	4.60		Max	4.00
84		3.76	3.87	4.00		Ave	3.88
8		3.40	3.42	3.40		Min	3.76
i	(i) Engage in life-long learning	Ability to adapt to changing technology.	Understanding of the need to continually update one's skills and knowledge.	Cognitive Level Assessment		Instrument Average	
#Totals/		4.40	4.40	3.75		Max	4.40
97		4.40	3.68	3.75		Ave	3.94
5		4.40	2.69	3.75		Min	3.68
j	(j) Know contemporary issues	Ability to identify basic problems and contemporary issues in engineering.	Application of knowledge of contemporary issues to Metallurgical Engineering			Instrument Average	
#Totals/		4.40	4.00			Max	4.16
32		4.16	4.00			Ave	4.08
3		3.92	4.00			Min	4.00
k	(k) Use engineering techniques, skills, and tools	Capable of using tools such as Excel, SolidWorks, MathCAD ---	Proficient in operating equipment used in the laboratory program such as the MTS machine, rolling mill, hardness tester ---	Understands the engineering design method and can apply this method in developing solutions to engineering problems.		Instrument Average	
#Totals/		4.85	4.83	4.20		Max	4.12
167		3.98	4.12	3.70		Ave	3.93
12		3.00	3.33	3.00		Min	3.70

Table E-III-2 2011 Assessment Summary

Assessment Metric Summary

Calendar Year **2011**

Outcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
a	(a) Apply knowledge of math, science, and engineering	Proficient in Fundamental Concepts and Skills	Proficient in Theoretical and Practical Relationships	Proficient in Basic Science		Instrument Average	
#Totals/		4.71	4.62	3.47		Max	3.87
281		3.69	3.87	3.17		Ave	3.58
14		2.71	2.83	2.71		Min	3.17
b	(b) Design and Conduct experiments Analyze and interpret data and information	Conducts the design of experiments.	Operates equipment and collects data for analysis.	Compares results for experimental measurements to the literature and conducts interpretation of results in written reports.	Is able to collect global information and to use this information in evaluation and interpretation of laboratory data	Instrument Average	
#Totals/		4.60	4.60	4.20	5.00	Max	4.35
89		3.78	4.35	3.32	3.54	Ave	3.75
13		3.00	4.20	2.75	2.75	Min	3.32
c	(c) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process in engineering design	Recognize and observe constraints in engineering design	Instrument Average	
#Totals/		4.60	4.00	4.20	3.00	Max	4.01
43		4.01	3.50	3.93	3.00	Ave	3.61
9		3.00	3.00	3.67	3.00	Min	3.00
d	(d) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and Receptiveness Skills		Instrument Average	
#Totals/		4.60	5.00	3.00		Max	3.67
30		3.63	3.67	3.00		Ave	3.43
7		3.00	3.00	3.00		Min	3.00
e	(e) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Instrument Average	
#Totals/		4.20	4.00	4.82		Max	3.74
115		3.42	3.00	3.74		Ave	3.38
9		2.33	2.00	2.93		Min	3.00
f	(f) Know professional and ethical responsibilities and practices	Carries out responsibilities in a professional and ethical manner	Understands basic engineering principles and practices, in terms of professional ethics and behavior			Instrument Average	
#Totals/		5.00	5.00			Max	4.83
28		4.77	4.83			Ave	4.80
7		4.60	4.33			Min	4.77
g	(g) Communicate effectively	The content of the written or oral presentation is effective.	The organization of memorandum and technical reports is consistent with styles accepted by the person's primary professional engineering society.	The design of slides shows an understanding of vision limitation of the audience and the total time the presenter plans to spend on the visual aid during oral presentations.		Instrument Average	
#Totals/		4.60	4.20	5.00		Max	3.49
77		3.49	3.32	3.44		Ave	3.42
13		2.33	3.00	2.33		Min	3.32
h	(h) Know engineering's global societal context	Has the broad education necessary to understanding impact of engineering solutions in global and societal context	Awareness of contemporary state of knowledge and relationship to engineering solutions	Recognizes the need to be aware of societal issues especially those that can be engaged by engineering solutions		Instrument Average	
#Totals/		4.74	3.80	1.00		Max	3.73
52		3.73	3.31	1.00		Ave	2.68
8		1.00	2.33	1.00		Min	1.00
i	(i) Engage in life-long learning	Ability to adapt to changing technology.	Understanding of the need to continually update one's skills and knowledge.	Cognitive Level Assessment		Instrument Average	
#Totals/		4.87	5.00			Max	5.00
34		4.57	5.00			Ave	4.79
4		4.43	5.00			Min	4.57
j	(j) Know contemporary issues	Ability to identify basic problems and contemporary issues in engineering.	Application of knowledge of contemporary issues to Metallurgical Engineering			Instrument Average	
#Totals/		4.60	5.00			Max	4.82
45		4.59	4.82			Ave	4.70
4		4.57	4.64			Min	4.59
k	(k) Use engineering techniques, skills, and tools	Capable of using tools such as Excel, SolidWorks, MathCAD ---	Proficient in operating equipment used in the laboratory program such as the MTS machine, rolling mill, hardness tester ---	Understands the engineering design method and can apply this method in developing solutions to engineering problems.		Instrument Average	
#Totals/		4.60	4.60	4.60		Max	4.16
99		4.05	4.16	3.89		Ave	4.03
9		3.29	3.71	3.00		Min	3.89

Table E-III-3 2012 Assessment Summary

Assessment Metric Summary

Calendar Year **2012**

Outcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
a	(a) Apply knowledge of math, science, and engineering	Proficient in Fundamental Concepts and Skills	Proficient in Theoretical and Practical Relationships	Proficient in Basic Science		Instrument Average	
#Totals/		4.60	4.26	4.00		Max	3.59
280		3.47	3.59	3.24		Ave	3.43
14		3.00	2.92	2.56		Min	3.24
b	(b) Design and Conduct experiments Analyze and interpret data and information	Conducts the design of experiments.	Operates equipment and collects data for analysis.	Compares results for experimental measurements to the literature and conducts interpretation of results in written reports.	Is able to collect global information and to use this information in evaluation and interpretation of laboratory data	Instrument Average	
#Totals/		3.50	5.00	4.83	4.11	Max	4.32
217		3.10	4.32	4.16	3.23	Ave	3.70
18		2.80	3.50	3.67	1.67	Min	3.10
c	(c) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process in engineering design	Recognize and observe constraints in engineering design	Instrument Average	
#Totals/		5.00	3.55	3.45	3.30	Max	3.56
206		3.56	3.48	3.37	2.97	Ave	3.34
12		2.60	3.40	3.25	2.60	Min	2.97
d	(d) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and Receptiveness Skills		Instrument Average	
#Totals/		5.00	5.00	3.50		Max	4.25
30		3.87	4.25	3.50		Ave	3.87
6		3.10	3.50	3.50		Min	3.50
e	(e) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Instrument Average	
#Totals/		3.65	3.50	4.26		Max	3.47
314		2.76	3.00	3.47		Ave	3.08
14		1.96	1.89	3.06		Min	2.76
f	(f) Know professional and ethical responsibilities and practices	Carries out responsibilities in a professional and ethical manner	Understands basic engineering principles and practices, in terms of professional ethics and behavior			Instrument Average	
#Totals/		3.60	4.00			Max	3.53
35		3.53	3.50			Ave	3.52
6		3.50	3.00			Min	3.50
g	(g) Communicate effectively	The content of the written or oral presentation is effective.	The organization of memorandum and technical reports is consistent with styles accepted by the person's primary professional engineering society.	The design of slides shows an understanding of vision limitation of the audience and the total time the presenter plans to spend on the visual aid during oral presentations.		Instrument Average	
#Totals/		4.27	3.55	4.00		Max	3.37
191		3.37	3.37	3.30		Ave	3.35
13		2.60	3.00	2.60		Min	3.30
h	(h) Know engineering's global societal context	Has the broad education necessary to understanding impact of engineering solutions in global and societal context	Awareness of contemporary state of knowledge and relationship to engineering solutions	Recognizes the need to be aware of societal issues especially those that can be engaged by engineering solutions		Instrument Average	
#Totals/		3.50	3.70	3.90		Max	2.97
71		2.64	2.97	2.85		Ave	2.82
8		1.80	2.20	1.80		Min	2.64
I	(i) Engage in life-long learning	Ability to adapt to changing technology.	Understanding of the need to continually update one's skills and knowledge.	Cognitive Level Assessment		Instrument Average	
#Totals/		4.00	4.50	3.48		Max	4.02
123		3.43	4.02	3.48		Ave	3.65
6		2.88	3.55	3.48		Min	3.43
j	(j) Know contemporary issues	Ability to identify basic problems and contemporary issues in engineering.	Application of knowledge of contemporary issues to Metallurgical Engineering			Instrument Average	
#Totals/		4.20	4.00			Max	3.50
56		3.40	3.50			Ave	3.45
5		3.00	3.00			Min	3.40
k	(k) Use engineering techniques, skills, and tools	Capable of using tools such as Excel, SolidWorks, MathCAD ---	Proficient in operating equipment used in the laboratory program such as the MTS machine, rolling mill, hardness tester ---	Understands the engineering design method and can apply this method in developing solutions to engineering problems.		Instrument Average	
#Totals/		4.80	3.25	4.33		Max	3.87
150		3.87	3.08	3.67		Ave	3.54
11		2.20	3.00	3.00		Min	3.08

Table E-III-4 2013 Assessment Summary

Assessment Metric Summary

Calendar Year **2013**

Outcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
a	(a) Apply knowledge of math, science, and engineering	Proficient in Fundamental Concepts and Skills	Proficient in Theoretical and Practical Relationships	Proficient in Basic Science		Instrument Average	
#Totals/		4.31	4.50	4.19		Max	3.72
358		3.72	3.55	3.24		Ave	3.50
14		2.71	2.59	2.41		Min	3.24
b	(b) Design and Conduct experiments Analyze and interpret data and information	Conducts the design of experiments.	Operates equipment and collects data for analysis.	Compares results for experimental measurements to the literature and conducts interpretation of results in written reports.	Is able to collect global information and to use this information in evaluation and interpretation of laboratory data	Instrument Average	
#Totals/		3.57	4.88	4.29	4.38	Max	4.37
133		3.04	4.37	3.71	2.90	Ave	3.51
12		2.56	3.67	3.33	1.00	Min	2.90
c	(c) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process in engineering design	Recognize and observe constraints in engineering design	Instrument Average	
#Totals/		4.33	3.60	4.21	4.00	Max	4.03
114		4.03	3.60	3.61	3.60	Ave	3.71
8		3.60	3.60	3.00	3.20	Min	3.60
d	(d) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and Receptiveness Skills		Instrument Average	
#Totals/		4.43	4.29	2.60		Max	3.74
76		3.74	3.24	2.60		Ave	3.19
6		3.00	2.20	2.60		Min	2.60
e	(e) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Instrument Average	
#Totals/		4.56	4.07	3.86		Max	3.85
156		3.85	3.24	3.62		Ave	3.57
8		2.56	2.41	3.44		Min	3.24
f	(f) Know professional and ethical responsibilities and practices	Carries out responsibilities in a professional and ethical manner	Understands basic engineering principles and practices, in terms of professional ethics and behavior			Instrument Average	
#Totals/		4.57	5.00			Max	4.06
67		3.68	4.06			Ave	3.87
6		2.80	2.60			Min	3.68
g	(g) Communicate effectively	The content of the written or oral presentation is effective.	The organization of memorandum and technical reports is consistent with styles accepted by the person's primary professional engineering society.	The design of slides shows an understanding of vision limitation of the audience and the total time the presenter plans to spend on the visual aid during oral presentations.		Instrument Average	
#Totals/		5.00	4.33	4.43		Max	3.64
142		3.64	3.59	3.48		Ave	3.57
13		2.80	2.80	2.60		Min	3.48
h	(h) Know engineering's global societal context	Has the broad education necessary to understanding impact of engineering solutions in global and societal context	Awareness of contemporary state of knowledge and relationship to engineering solutions	Recognizes the need to be aware of societal issues especially those that can be engaged by engineering solutions		Instrument Average	
#Totals/		4.47	3.86	3.00		Max	4.01
114		4.01	3.53	3.00		Ave	3.51
8		3.00	3.20	3.00		Min	3.00
i	(i) Engage in life-long learning	Ability to adapt to changing technology.	Understanding of the need to continually update one's skills and knowledge.	Cognitive Level Assessment		Instrument Average	
#Totals/		4.38	4.43	4.26		Max	4.43
93		4.19	4.43	4.26		Ave	4.29
4		4.00	4.43	4.26		Min	4.19
j	(j) Know contemporary issues	Ability to identify basic problems and contemporary issues in engineering.	Application of knowledge of contemporary issues to Metallurgical Engineering			Instrument Average	
#Totals/		4.47	4.14			Max	4.36
65		4.36	4.14			Ave	4.25
4		4.29	4.14			Min	4.14
k	(k) Use engineering techniques, skills, and tools	Capable of using tools such as Excel, SolidWorks, MathCAD ---	Proficient in operating equipment used in the laboratory program such as the MTS machine, rolling mill, hardness tester ---	Understands the engineering design method and can apply this method in developing solutions to engineering problems.		Instrument Average	
#Totals/		4.69	4.43	4.43		Max	4.05
136		3.86	4.05	3.71		Ave	3.88
9		2.56	3.67	3.00		Min	3.71

Table E-III-5 2014 Assessment Summary

Assessment Metric Summary

Calendar Year **2014**

Outcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
a	(a) Apply knowledge of math, science, and engineering	Proficient in Fundamental Concepts and Skills	Proficient in Theoretical and Practical Relationships	Proficient in Basic Science		Instrument Average	
#Totals/		4.33	3.67	3.83		Max	3.58
293		3.56	2.86	3.58		Ave	3.33
13		2.64	1.62	3.33		Min	2.86
b	(b) Design and Conduct experiments Analyze and interpret data and information	Conducts the design of experiments.	Operates equipment and collects data for analysis.	Compares results for experimental measurements to the literature and conducts interpretation of results in written reports.	Is able to collect global information and to use this information in evaluation and interpretation of laboratory data	Instrument Average	
#Totals/		4.52	4.71	4.67	4.05	Max	4.25
244		3.66	4.25	3.89	3.53	Ave	3.83
17		2.45	3.67	3.44	3.31	Min	3.53
c	(c) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process in engineering design	Recognize and observe constraints in engineering design	Instrument Average	
#Totals/		4.09	3.89	4.67	4.33	Max	4.04
99		3.58	3.69	3.83	4.04	Ave	3.79
12		2.75	3.50	3.25	3.75	Min	3.58
d	(d) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and Receptiveness Skills		Instrument Average	
#Totals/		4.33	4.67	2.75		Max	3.71
47		3.54	3.71	2.75		Ave	3.33
6		2.75	2.75	2.75		Min	2.75
e	(e) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Instrument Average	
#Totals/		4.33	3.67	4.00		Max	3.52
302		3.52	3.16	3.21		Ave	3.29
13		2.94	2.79	2.67		Min	3.16
f	(f) Know professional and ethical responsibilities and practices	Carries out responsibilities in a professional and ethical manner	Understands basic engineering principles and practices, in terms of professional ethics and behavior			Instrument Average	
#Totals/		4.67	4.67			Max	4.17
66		4.17	3.53			Ave	3.85
6		3.75	2.93			Min	3.53
g	(g) Communicate effectively	The content of the written or oral presentation is effective.	The organization of memorandum and technical reports is consistent with styles accepted by the person's primary professional engineering society.	The design of slides shows an understanding of vision limitation of the audience and the total time the presenter plans to spend on the visual aid during oral presentations.		Instrument Average	
#Totals/		5.00	4.67	4.67		Max	3.91
114		3.91	3.83	3.75		Ave	3.83
12		3.25	2.75	2.75		Min	3.75
h	(h) Know engineering's global societal context	Has the broad education necessary to understanding impact of engineering solutions in global and societal context	Awareness of contemporary state of knowledge and relationship to engineering solutions	Recognizes the need to be aware of societal issues especially those that can be engaged by engineering solutions		Instrument Average	
#Totals/		3.91	4.67	2.50		Max	3.42
73		3.36	3.42	2.50		Ave	3.09
7		2.50	2.75	2.50		Min	2.50
i	(i) Engage in life-long learning	Ability to adapt to changing technology.	Understanding of the need to continually update one's skills and knowledge.	Cognitive Level Assessment		Instrument Average	
#Totals/		4.22	4.33	3.22		Max	3.89
116		3.77	3.89	3.22		Ave	3.63
7		3.55	3.44	3.22		Min	3.22
j	(j) Know contemporary issues	Ability to identify basic problems and contemporary issues in engineering.	Application of knowledge of contemporary issues to Metallurgical Engineering			Instrument Average	
#Totals/		4.00	3.67			Max	3.86
50		3.86	3.67			Ave	3.77
4		3.73	3.67			Min	3.67
k	(k) Use engineering techniques, skills, and tools	Capable of using tools such as Excel, SolidWorks, MathCAD ---	Proficient in operating equipment used in the laboratory program such as the MTS machine, rolling mill, hardness tester ---	Understands the engineering design method and can apply this method in developing solutions to engineering problems.		Instrument Average	
#Totals/		4.50	4.33	4.33	4.53	Max	4.53
140		4.12	4.04	4.17	4.53	Ave	4.22
12		3.40	3.80	4.00	4.53	Min	4.04

Table E-III-6 2015 Assessment Summary

Assessment Metric Summary

Calendar Year **2015**

Outcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
a	(a) Apply knowledge of math, science, and engineering	Proficient in Fundamental Concepts and Skills	Proficient in Theoretical and Practical Relationships	Proficient in Basic Science		Instrument Average	
#Totals/		4.14	3.82	3.62		Max	3.48
324		3.48	3.22	3.26		Ave	3.32
11		2.74	2.69	2.74		Min	3.22
b	(b) Design and Conduct experiments Analyze and interpret data and information	Conducts the design of experiments.	Operates equipment and collects data for analysis.	Compares results for experimental measurements to the literature and conducts interpretation of results in written reports.	Is able to collect global information and to use this information in evaluation and interpretation of laboratory data	Instrument Average	
#Totals/		3.57	4.57	4.29	3.75	Max	3.77
106		2.84	3.77	3.51	3.23	Ave	3.34
11		1.67	3.00	3.00	2.71	Min	2.84
c	(c) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process in engineering design	Recognize and observe constraints in engineering design	Instrument Average	
#Totals/		4.14	3.75	4.21	4.00	Max	4.00
100		3.91	3.75	3.86	4.00	Ave	3.88
8		3.75	3.75	3.50	4.00	Min	3.75
d	(d) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and Receptiveness Skills		Instrument Average	
#Totals/		4.43	4.29	3.75		Max	4.14
64		4.14	4.02	3.75		Ave	3.97
6		4.00	3.75	3.75		Min	3.75
e	(e) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Instrument Average	
#Totals/		4.43	4.07	4.03		Max	4.05
155		3.31	4.05	3.95		Ave	3.77
7		2.66	4.03	3.86		Min	3.31
f	(f) Know professional and ethical responsibilities and practices	Carries out responsibilities in a professional and ethical manner	Understands basic engineering principles and practices, in terms of professional ethics and behavior			Instrument Average	
#Totals/		4.57	4.75			Max	4.66
56		4.30	4.66			Ave	4.48
5		3.83	4.57			Min	4.30
g	(g) Communicate effectively	The content of the written or oral presentation is effective.	The organization of memorandum and technical reports is consistent with styles accepted by the person's primary professional engineering society.	The design of slides shows an understanding of vision limitation of the audience and the total time the presenter plans to spend on the visual aid during oral presentations.		Instrument Average	
#Totals/		5.00	4.29	4.43		Max	4.19
118		4.07	3.73	4.19		Ave	4.00
13		3.29	2.71	3.90		Min	3.73
h	(h) Know engineering's global societal context	Has the broad education necessary to understanding impact of engineering solutions in global and societal context	Awareness of contemporary state of knowledge and relationship to engineering solutions	Recognizes the need to be aware of societal issues especially those that can be engaged by engineering solutions		Instrument Average	
#Totals/		4.67	3.86	3.00		Max	3.84
76		3.84	3.26	3.00		Ave	3.37
7		3.00	2.75	3.00		Min	3.00
i	(i) Engage in life-long learning	Ability to adapt to changing technology.	Understanding of the need to continually update one's skills and knowledge.	Cognitive Level Assessment		Instrument Average	
#Totals/		4.38	4.43	3.83		Max	4.30
104		4.02	4.30	3.83		Ave	4.05
6		3.83	4.17	3.83		Min	3.83
j	(j) Know contemporary issues	Ability to identify basic problems and contemporary issues in engineering.	Application of knowledge of contemporary issues to Metallurgical Engineering			Instrument Average	
#Totals/		4.33	4.14			Max	4.15
64		4.15	3.99			Ave	4.07
5		3.83	3.83			Min	3.99
k	(k) Use engineering techniques, skills, and tools	Capable of using tools such as Excel, SolidWorks, MathCAD ---	Proficient in operating equipment used in the laboratory program such as the MTS machine, rolling mill, hardness tester ---	Understands the engineering design method and can apply this method in developing solutions to engineering problems.		Instrument Average	
#Totals/		4.50	4.43	4.43	4.26	Max	4.26
168		4.24	3.71	3.91	4.26	Ave	4.03
10		3.80	3.00	3.40	4.26	Min	3.71