Table E-III-1 2010 Assessment Summary

alendar	Year	2010					
utcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
atoomo	(a) Apply knowledge of math,	Proficient in Fundamental	Proficient in Theoretical and	Proficient in Basic Science	i didinando objectivo i		
	science, and engineering	Concepts and Skills	Practical Relationships				
#Totals/		4.67	4.29	3.81		Instrument Max	4.22
288		4.22	3.35	3.39		Ave	3.65
14	(h) Davies and October	3.81	1.75	3.07	la abla ta salla et elab el	Min	3.35
	(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) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process ir engineering design	Recognize and observe constraints in engineering design	Instrument	Average
#Totals/		4.27	5.00	4.34	4.79	Max	4.50
148 12		3.56 2.60	<b>4.50</b> 4.20	3.91 3.40	3.86 3.40	Ave Min	3.96 3.56
	(d) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and			2.20
				Receptiveness Skills		Instrument	
#Totals/ 119		4.80 4.03	4.40 4.04	4.27 3.84		Max Ave	4.04 3.97
9		3.40	3.40	3.40		Ave Min	3.97
	(e) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Inotri	
#Totals/		4.71	4.57	4.42		Instrument Max	4.22
313		4.22	4.17	3.46		Ave	3.95
14		3.74	3.37	1.55		Min	3.46
	(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	
#Totals/		4.40	4.67			Max	4.30
72 7		<b>4.30</b> 4.20	4.04 3.00			Ave Min	4.17 4.04
	(g) Communicate effectively	The content of the written or oral presentation is effective.	The organization of memorandum and technical	The design of slides shows an understanding of vision			
			reports is consistent with styles accepted by the person's primary professional engineering society.	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	(h) Know engineering's global	3.67	3.57	3.53 Recognizes the need to be		Min	3.93
	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	aware of societal issues especially those that can be engaged by engineering solutions		lootry	Avoress
#Totals/ 84		4.00 3.76	4.20 3.87	4.60 4.00		Instrument Max Ave	4.00 3.88
8		3.40	3.42	3.40		Min	3.76
	(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			
#Totals/		4.40	4.40	3.75		Instrument Max	Average 4.40
97		4.40	3.68	3.75		Ave	3.94
5		4.40	2.69	3.75		Min	3.68
	(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) 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	
#Totals/ 167		4.85 3.98	4.83 4.12	4.20 3.70		Max Ave	4.12 3.93
	i e	0.00	7.14	3.70	1	Ave	3.53

**Table E-III-2 2011 Assessment Summary** 

alendar	Year	2011					
utcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
	(a) Apply knowledge of math,	Proficient in Fundamental	Proficient in Theoretical and	Proficient in Basic Science			
	science, and engineering	Concepts and Skills	Practical Relationships			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) 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) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process ir engineering design	Recognize and observe constraints in engineering design	Instrument	Average
#Totals/		4.60	4.00	4.20	3.00	Max	4.01
43 9		4.01 3.00	3.50	3.93 3.67	3.00 3.00	Ave Min	3.61
Ü	(d) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and	0.00		5.00
	(=)			Receptiveness Skills		Instrument	
#Totals/		4.60	5.00	3.00		Max	3.67
30 7		3.63 3.00	3.67 3.00	3.00 3.00		Ave Min	3.43
	(e) Identify, formulate, and	Identify	Formulate	Solve			5.00
#Totals/	solve engineering problems	4.20	4.00	4.82		Instrument Max	Average 3.74
115		3.42	3.00	3.74		Ave	3.38
9		2.33	2.00	2.93		Min	3.00
#Totale/	(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	
#Totals/ 28 7		5.00 <b>4.77</b> 4.60	5.00 <b>4.83</b> 4.33			Max Ave Min	4.83 4.80 4.77
	(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 13		3.49 2.33	3.32 3.00	3.44 2.33		Ave Min	3.42 3.32
13	(h) Know engineering's global	Has the broad education	Awareness of contemporary	Recognizes the need to be		IVIIII	3.32
	societal context	necessary to understanding impact of engineering solutions in global and societal context	state of knowledge and relationship to engineering solutions	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 8		3.73 1.00	3.31 2.33	1.00 1.00		Ave Min	2.68 1.00
8	(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			
#Totals/		4.87	5.00			Instrument Max	Average 5.00
#10tais/		4.57	5.00			Ave	4.79
4		4.43	5.00			Min	4.57
	(j) Know contemporary issues	Ability to identify basic problems and contemporary issues in engineering.	Application of knowledge of contemporary issues to Metallurgical Engineering			lasta	A
#Totals/		4.60	5.00	-		Instrument Max	Average 4.82
45		4.59	4.82	1		Ave	4.70
4		4.57	4.64			Min	4.59
	(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.			
#Totals/		4.60	4.60	4.60		Instrument Max	Average 4.16
#1 otals/ 99		4.05	4.16	3.89		Ave	4.16
9	1	3.29	3.71	3.00		Min	3.89

Table E-III-3 2012 Assessment Summary

alendaı	r Year	2012					
utcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
	(a) Apply knowledge of math,	Proficient in Fundamental	Proficient in Theoretical and	Proficient in Basic Science			
	science, and engineering	Concepts and Skills	Practical Relationships				
#Totals/		4.60	4.26	4.00		Instrument Max	Average 3.59
280		3.47	3.59	3.24		Ave	3.43
14		3.00	2.92	2.56		Min	3.24
	(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) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process ir engineering design	Recognize and observe constraints in engineering design	Instrument	Average
#Totals/		5.00	3.55	3.45	3.30	Max	3.56
206 12		3.56 2.60	3.48 3.40	3.37 3.25	2.97 2.60	Ave Min	3.34 2.97
14	(d) Expetion well as to a				2.00	WIII	2.97
	(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) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Instrument	Average
#Totals/		3.65	3.50	4.26		Max	3.47
314 14		2.76 1.96	3.00 1.89	3.47 3.06		Ave Min	3.08 2.76
#Totals/	ethical responsibilities and practices	a professional and ethical manner	engineering principles and practices, in terms of professional ethics and behavior			Instrument Max	3.53
35 6		3.53 3.50	3.50 3.00			Ave Min	3.52 3.50
	(g) Communicate effectively	The content of the written or oral presentation is effective.	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	
#Totals/		4.27	3.55	4.00		Max	3.37
191 13		3.37 2.60	3.37 3.00	3.30 2.60		Ave Min	3.35 3.30
	(h) Know engineering's global	Has the broad education	Awareness of contemporary	Recognizes the need to be			
	societal context	necessary to understanding impact of engineering solutions in global and societal context	state of knowledge and relationship to engineering solutions	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 8		2.64 1.80	2.97 2.20	2.85 1.80		Ave Min	2.82 2.64
-	(i) Engage in life-long leaming	Ability to adapt to changing technology.	Understanding of the need to continually update one's skills and knowledge.				
#Totals/		4.00	4.50	3.48		Instrument Max	Average 4.02
123		3.43	4.02	3.48		Ave	3.65
6		2.88	3.55	3.48		Min	3.43
	(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
# I Otals/		3.40	3.50			Ave	3.45
56		3.00	3.00			Min	3.40
			Proficient in operating	Understands the engineering			
56	(k) Use engineering techniques, skills, and tools	Capable of using tools such as Excel, SolidWorks, MathCAD	equipment used in the laboratory program such as the MTS machine, rolling mill, hardness tester	design method and can apply this method in developing solutions to engineering problems.			
56 5		as Excel, SolidWorks, MathCAD	equipment used in the laboratory program such as the MTS machine, rolling mill, hardness tester	design method and can apply this method in developing solutions to engineering problems.		Instrument Max	
56		as Excel, SolidWorks,	equipment used in the laboratory program such as the MTS machine, rolling mill,	design method and can apply this method in developing solutions to engineering		Instrument Max Ave	Average 3.87 3.54

Table E-III-4 2013 Assessment Summary

alendar	Year	2013					
	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
	(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/ 358 14		4.31 3.72 2.71	4.50 <b>3.55</b> 2.59	4.19 <b>3.24</b> 2.41		Max Ave Min	3.72 3.50 3.24
	(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	
#Totals/ 133 12		3.57 <b>3.04</b> 2.56	4.88 <b>4.37</b> 3.67	4.29 <b>3.71</b> 3.33	4.38 2.90 1.00	Max Ave Min	4.37 3.51 2.90
	(c) Optimally select material and design materials treatment and production processes	Understand the engineering design process	Formulate possible engineering solutions	Master the iterative process ir engineering design	Recognize and observe constraints in engineering design	Instrument	A.,
#Totals/ 114 8		4.33 4.03 3.60	3.60 <b>3.60</b> 3.60	4.21 <b>3.61</b> 3.00	4.00 <b>3.60</b> 3.20	Max Ave Min	4.03 3.71 3.60
#Totals/	(d) Function well on teams	Responsible Participation  4.43	Interaction Skills 4.29	Assimilation and Receptiveness Skills 2.60		Instrument Max	Average 3.74
76 6		<b>3.74</b> 3.00	3.24 2.20	<b>2.60</b> 2.60		Ave Min	3.19 2.60
	(e) Identify, formulate, and solve engineering problems	Identify	Formulate	Solve		Instrument	Average
#Totals/ 156 8		4.56 <b>3.85</b> 2.56	4.07 3.24 2.41	3.86 3.62 3.44		Max Ave Min	3.85 3.57 3.24
	(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	
#Totals/ 67 6		4.57 3.68 2.80	5.00 <b>4.06</b> 2.60			Max Ave Min	4.06 3.87 3.68
	(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.			_
#Totals/ 142 13		5.00 <b>3.64</b> 2.80	4.33 <b>3.59</b> 2.80	4.43 <b>3.48</b> 2.60		Instrument Max Ave Min	3.64 3.57 3.48
13	(h) Know engineering's global 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		Will	3.40
#Totals/		societal context	3.86	solutions 3.00		Instrument Max	Average 4.01
114 8		<b>4.01</b> 3.00	<b>3.53</b> 3.20	<b>3.00</b> 3.00		Ave Min	3.51 3.00
	(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	Avorago
#Totals/ 93 4		4.38 <b>4.19</b> 4.00	4.43 <b>4.43</b> 4.43	4.26 <b>4.26</b> 4.26		Max Ave Min	4.43 4.29 4.19
	(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/ 65 4		4.47 <b>4.36</b> 4.29	4.14 <b>4.14</b> 4.14			Max Ave Min	4.36 4.25 4.14
	(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.			
#Totals/		4.69 3.86	4.43 4.05	4.43 3.71		Instrument Max Ave	Average 4.05 3.88

Table E-III-5 2014 Assessment Summary

2.04   1.02   2.05   1.02   2.05								
1					ı	1		
Content of engineering   Concepts and Sibility   Content of Engineering   Concepts and Sibility   Content of Engineering   Content of Engineerin	outcome					Performance Objective 4		
#Totals					Proficient in Basic Science			
236   2.56   2.56   3.56   3.60   3.26   3.56   3.60   3.26   3.57   3.26   3.								
1   1   2   2   2   2   2   2   2   2								3.58
#Totals/   Formulation with office and production and or use the international Analyzes and information and or use the international Analyzes and information in evaluation and or use the international Analyzes and information in evaluation and or use the international Analyzes and design and desi	13			1.62			Min	2.86
#Totals   1-52		experiments Analyze and		Operates equipment and collects data for analysis.	experimental measurements to the literature and conducts interpretation of results in	information and to use this information in evaluation and interpretation of laboratory	Instrument	Average
17	#Totals/		4.52	4.71	4.67	4.05		4.25
Cytimany select natural and design process and engineering solutions and production processes are single process and production processes and production processes and production processes and processes								3.83
# and design methods and production of productions and production of productions and production of productions and production of productions and productions	17	(a) On the allowed at a sector of all					Min	3.53
99   3.58   3.69   3.69   3.25   3.7		and design materials treatment and production				constraints in engineering	Instrument	Average
OF Function well on teams   Responsible Participation   Interaction Skills   Response	99		3.58	3.69	3.83	4.04	Ave	4.04 3.79 3.58
Totals		(d) Function well on teams						2.50
Footbale	um				Receptiveness Skills			
Totals								3.71 3.33
#Totals/   Totals/								2.75
A			Identify	Formulate	Solve		Instrument	Average
13   2,94   2,79   2,67   Min   3,15							Max	3.52
#Totals/ ##Totals/ ####################################								3.29 3.16
Communicate effectively   The content of the written or oral presentation is effective.   The orange of societal content with system accepted by the person's primary professional imports is consistent with system accepted by the person's primary professional with system accepted by the person's primary professional with the person's professional with t		ethical responsibilities and	a professional and ethical manner 4.67	engineering principles and practices, in terms of professional ethics and behavior  4.67			Max	4.17
FTotals/   Gi) Communicate effectively   The content of the written or oral presentation is effective.   The organization of memorandum and technical integrots is consistent with styless accepted by the preports is consistent with styless accepted by the preports is consistent with styless accepted by the preports processional engineering society.   Instrument Average the total time the presentations.   Instrument Average the total form the visual and during oral presentations.   Instrument Average the total time the presentations.   Instrument Average the total time the presentations.   Instrument Average the presentations and the total time the presentations.   Instrument Average the total time the presentations.   Instrument Average the total presentations and the total time the presentations.   Instrument Average the total presentations and the total time the presentations.   Instrument Average the total presentations and the total time the presentations.   Instrument Average the total presentations and the total time the presentations.   Instrument Average the presentations and the total time the presentations.   Instrument Average the presentations and the total time the presentations.   Instrument Average the presentations and the total time the presentations.   Instrument Average the presentations and understanding of vision time the presentations.   Instrument Average the presentations.   Instrument Average the presentations and understanding of vision time the presentations.   Instrument Average the presentations.   Instrument Average the presentations.   Instrument Average the presentations.   Instrument Average the presentations and understanding of vision time the presenta								3.85
114   12		(g) Communicate effectively	oral presentation is effective.	memorandum and technical reports is consistent with styles accepted by the person's primary professional engineering society.	an understanding of vision limitation of the audience and the total time the presenter plans to spend on the visual aid during oral presentations.			
12								3.91 3.83
Societal context   Instrument   State of knowledge and relationship to engineering solutions in global and societal context   Instrument   State of knowledge and relationship to engineering solutions   Soluti								3.75
#Totals/ 73			necessary to understanding impact of engineering solutions in global and	state of knowledge and relationship to engineering	aware of societal issues especially those that can be engaged by engineering		Instrument	Average
Totals	#Totals/		3.91	4.67	2.50			Average 3.42
(i) Engage in life-long learning	73 7		3.36	3.42				3.09
#Totals/ 116	ı			continually update one's skills				2.50
116	#Totals/		4.22	4.33	3.22			Average 3.89
(i) Know contemporary issues and contemporary issues in engineering.  #Totals/ 50	116		3.77	3.89	3.22		Ave	3.63
issues problems and contemporary issues to issues in engineering.  #Totals/ 50	7				3.22		Min	3.22
#Totals/			problems and contemporary	contemporary issues to			Instrument	Average
4 Substitution of the children shall be represented by the children shall be represen							Max	3.86
(k) Use engineering techniques, skills, and tools with the continuous stills, and tools as Excel, SolidWorks, MathCAD with MathCAD wit								3.77 3.67
#Totals/ 4.50 4.33 4.33 4.53 <b>Max 4.</b> 5	·		Capable of using tools such as Excel, SolidWorks,	Proficient in operating equipment used in the laboratory program such as the MTS machine, rolling mill,	design method and can apply this method in developing solutions to engineering			
	#Tar-t-1		4.50	4.22	4.22	4.52		
	#Totals/ 140		4.50 4.12	4.33 4.04	4.33 4.17	4.53 4.53	Max Ave	4.53 4.22
12 3.40 3.80 4.00 4.53 <b>Min</b> 4.0								4.04

Table E-III-6 2015 Assessment Summary

		ary					
	Voor	2015					
alendar outcome	Description	Performance Objective 1	Performance Objective 2	Performance Objective 3	Performance Objective 4		
dioonic	(a) Apply knowledge of math,	Proficient in Fundamental	Proficient in Theoretical and	Proficient in Basic Science	i chomance objective 4		
	science, and engineering	Concepts and Skills	Practical Relationships				
#Totals/		4.14	3.82	3.62		Instrument Max	Average 3.48
324		3.48	3.22	3.26		Ave	3.32
11		2.74	2.69	2.74		Min	3.22
	(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	la strum on t	A
#Totals/		3.57	4.57	4.29	3.75	Instrument 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) 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) Function well on teams	Responsible Participation	Interaction Skills	Assimilation and Receptiveness Skills		lnotr : :	Avorses
#Totals/		4.43	4.29	3.75		Instrument Max	Average 4.14
64 6		<b>4.14</b> 4.00	4.02 3.75	<b>3.75</b> 3.75		Ave Min	3.97 3.75
U	(a) Identify formulate and		Formulate	Solve		IVIII	3.15
	(e) Identify, formulate, and solve engineering problems	Identify	romuate	SUIVE		Instrument	Average
#Totals/		4.43	4.07	4.03		Max	4.05
155 7		3.31 2.66	4.05 4.03	3.95 3.86		Ave Min	3.77 3.31
#Totals/	(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  4.75			Instrument Max	Average 4.66
#10tals/		4.30	4.66			Ave	4.48
5		3.83	4.57			Min	4.30
	(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	
#Totals/		5.00	4.29	4.43		Max	4.19
118 13		<b>4.07</b> 3.29	3.73 2.71	<b>4.19</b> 3.90		Ave Min	4.00
			Awareness of contemporary	Recognizes the need to be			
	(h) Know engineering's global	Has the broad education					3.73
	(h) Know engineering's global societal context	Has the broad education necessary to understanding impact of engineering solutions in global and societal context	state of knowledge and relationship to engineering solutions	aware of societal issues especially those that can be engaged by engineering solutions		Instrument	
#Totals/		necessary to understanding impact of engineering solutions in global and societal context	state of knowledge and relationship to engineering solutions	aware of societal issues especially those that can be engaged by engineering solutions		Instrument Max	Average 3.84
#Totals/ 76 7		necessary to understanding impact of engineering solutions in global and societal context	state of knowledge and relationship to engineering solutions  3.86  3.26	aware of societal issues especially those that can be engaged by engineering solutions			Average 3.84 3.37
76		necessary to understanding impact of engineering solutions in global and societal context 4.67	state of knowledge and relationship to engineering solutions	aware of societal issues especially those that can be engaged by engineering solutions  3.00  3.00		Max Ave Min	Average 3.84 3.37 3.00
76 7	societal context  (i) Engage in life-long	necessary to understanding impact of engineering solutions in global and societal context  4.67 3.84 3.00 Ability to adapt to changing technology.	state of knowledge and relationship to engineering solutions  3.86 3.26 2.75 Understanding of the need to continually update one's skills and knowledge.	aware of societal issues especially hose that can be engaged by engineering solutions  3.00 3.00 3.00 Cognitive Level Assessment		Max Ave Min	Average 3.84 3.37 3.00
76	societal context  (i) Engage in life-long	necessary to understanding impact of engineering solutions in global and societal context   4.67 3.84 3.00  Ability to adapt to changing	state of knowledge and relationship to engineering solutions  3.86 3.26 2.75 Understanding of the need to continually update one's skills	aware of societal issues especially those that can be engaged by engineering solutions  3.00 3.00 3.00		Max Ave Min	Average 3.84 3.37 3.00
76 7 #Totals/	(i) Engage in life-long learning	necessary to understanding impact of engineering solutions in global and societal context  4.67 3.84 3.00 Ability to adapt to changing technology.  4.38 4.02 3.83	state of knowledge and relationship to engineering solutions  3.86 3.26 2.75 Understanding of the need to continually update one's skills and knowledge.  4.43 4.30 4.17	aware of societal issues especially those that can be engaged by engineering solutions  3.00 3.00 3.00 Cognitive Level Assessment		Max Ave Min Instrument Max	Average 3.84 3.37 3.00 Average 4.30
76 7 #Totals/ 104 6	societal context  (i) Engage in life-long	necessary to understanding impact of engineering solutions in global and societal context  4.67 3.84 3.00  Ability to adapt to changing technology.  4.38 4.02 3.83  Ability to identify basic problems and contemporary issues in engineering.	state of knowledge and relationship to engineering solutions  3.86 3.26 2.75 Understanding of the need to continually update one's skills and knowledge.  4.43 4.30 4.107 Application of knowledge of contemporary issues to Metallurgical Engineering	aware of societal issues especially hose that can be engaged by engineering solutions  3.00 3.00 3.00 Cognitive Level Assessment  3.83 3.83		Max Ave Min  Instrument Max Ave Min  Instrument	Average  3.84 3.37 3.00  Average 4.30 4.05 3.83  Average
76 7 #Totals/ 104 6	(i) Engage in life-long learning	necessary to understanding impact of engineering solutions in global and societal context  4.67 3.84 3.00 Ability to adapt to changing technology.  4.38 4.02 3.63 Ability to identify basic problems and contemporary issues in engineering.	state of knowledge and relationship to engineering solutions  3.86 3.26 2.75 Understanding of the need to continually update one's skills and knowledge.  4.43 4.30 4.17 Application of knowledge of contemporary issues to Metallurgical Engineering  4.14 3.99	aware of societal issues especially hose that can be engaged by engineering solutions  3.00 3.00 3.00 Cognitive Level Assessment  3.83 3.83		Max Ave Min  Instrument Max Ave Min  Instrument Max Ave Ave	Average  Average  4.30  4.05  3.83  Average  4.15  4.07
76 7 #Totals/ 104 6	(i) Engage in life-long learning  (j) Know contemporary issues	necessary to understanding impact of engineering solutions in global and societal context  4.67 3.84 3.00 Ability to adapt to changing technology.  4.33 4.02 3.83 Ability to identify basic problems and contemporary issues in engineering.  4.33 4.15 3.83	state of knowledge and relationship to engineering solutions  3.86 3.26 2.75 Understanding of the need to continually update one's skills and knowledge.  4.43 4.30 4.17 Application of knowledge of contemporary issues to Metallurgical Engineering  4.14 3.99 3.83	aware of societal issues especially hose that can be engaged by engineering solutions  3.00 3.00 3.00 Cognitive Level Assessment  3.83 3.83 3.83		Max Ave Min  Instrument Max Ave Min  Instrument Max Ave Min	Average  3.84 3.37 3.00  Average 4.30 4.05 3.83  Average 4.15
76 7 #Totals/ 104 6 #Totals/ 64	(i) Engage in life-long learning	necessary to understanding impact of engineering solutions in global and societal context  4.67 3.84 3.00 Ability to adapt to changing technology.  4.38 4.02 3.63 Ability to identify basic problems and contemporary issues in engineering.	state of knowledge and relationship to engineering solutions  3.86 3.26 2.75 Understanding of the need to continually update one's skills and knowledge.  4.43 4.30 4.17 Application of knowledge of contemporary issues to Metallurgical Engineering  4.14 3.99 3.83 Proficient in operating equipment used in the laboratory program such as	aware of societal issues especially hose that can be engaged by engineering solutions  3.00 3.00 3.00 Cognitive Level Assessment  3.83 3.83		Max Ave Min  Instrument Max Ave Min  Instrument Max Ave Min	3.84 3.37 3.00 Average 4.30 3.83 Average 4.15 4.07 3.99
76 7 #Totals/ 104 6	(i) Engage in life-long learning  (ii) Know contemporary issues	necessary to understanding impact of engineering solutions in global and societal context  4.67 3.84 3.00 Ability to adapt to changing technology.  4.38 4.02 3.63 Ability to identify basic problems and contemporary issues in engineering.  4.33 4.15 3.83 Capable of using tools such as Excel, SolidWorks,	state of knowledge and relationship to engineering solutions  3.86 3.26 2.75 Understanding of the need to continually update one's skills and knowledge.  4.43 4.30 4.17 Application of knowledge of contemporary issues to Metallurgical Engineering  4.14 3.99 3.83 7.9163 7.9161cent in operating equipment used in the laboratory program such as the MTS machine, rolling mill, the MTS machine, rolling mill, the MTS machine, rolling mill,	aware of societal issues especially hose that can be engaged by engineering solutions  3.00 3.00 3.00 Cognitive Level Assessment  3.83 3.83 3.83 3.83 3.83 3.83 3.83 3.	4.26	Max Ave Min  Instrument Max Ave Min  Instrument Max Ave Ave	Average 3.84 3.37 3.00  Average 4.30 4.05 3.83  Average 4.15 4.07 3.99