



VANIER COLLEGE

**BUILDING SYSTEMS ENGINEERING
TECHNOLOGY**

**PROPOSED CHANGES TO
BSET CURRICULUM
221-C0**

INTRODUCTION:

The BSET department has gone through a program revision in 2002. The grid for the new program was approved in 2003 and its implementation started during the 2004/05 academic year. After three years of implementation, the BSET faculty is proposing some minor changes to the program. The faculty felt that those changes will improve the way the effected courses are taught which should have a positive impact on the program and students. The proposed changes effect two areas, the grid and the competencies.

PROPOSED CHANGES TO THE GRID:

The proposed changes to the grid will effect the following courses:

1. 221-493-VA Heating Systems (fourth semester)
2. 221-591-VA Plumbing and Fire Protection Systems (fifth semester)
3. 221-695-VA HVAC and Plumbing Project (sixth semester)
4. 221-594-VA HVAC Controls (fifth semester)
5. 221-694-VA Energy Management (sixth semester)

Tables 1 and 2 show the BSET current grid for the Fall and Winter entries. Tables 3 and 4 show the grid with the proposed changes.

221-493-VA Heating Systems:

The proposed change to this course is to modify its ponderation. The current ponderation is 4-4-2. The department is proposing to modify it to 5-3-2. The contents of this course, to meet its competencies, are very large. The department feels that increasing the lecture time by one hour per week will give the teacher sufficient time to cover the required material adequately and at the same time leaving the lab period with sufficient time to complete any lab experiment.

221-591-VA Plumbing & Fire Protection Systems:

The proposed change to this course is to split it into two independent courses:

- Fire Protection Systems, and
- Plumbing Systems

After trying this course for the first time last year it was apparent that separating the two subjects was very important. Those two subjects are heavily regulated by codes which require enough time for the students to absorb. The teacher was pressed for time to complete one subject within few weeks in order to start the second subject which in turn subjected the students to a lot of stress. The department feels that separating the course into two will give the teacher(s) the entire semester to complete the course contents and the students enough time to absorb the materials.

221-695-VA HVAC and Plumbing Project:

The proposed change to this course is to remove the Plumbing component from it and add that to the proposed Plumbing Systems course and change the course title and ponderation to:

- HVAC Project 4-3-2

Removing the Plumbing component from this course reduces the load and the stress level on the students by the demanding and time consuming project. The students will be able to complete the Plumbing project component during the lab period of the Plumbing Systems course.

221-594-VA HVAC Controls:

The lab time for this course is reduced by one hour from 3 hours per week to 2 hours per week.

221-694-VA Energy Management:

The lecture time for this course is reduced by one hour from 3 hours per week to 2 hours per week.

The table below shows a summary of the proposed changes to the grid.

Current Grid						Proposed changes					
Course #	Course title	T	L	H	credit	Course #	Course title	T	L	H	credit
221-493-VA	Heating Systems (4 th semester)	4	4	2	3 1/3	221-493-VA	Heating Systems (4 th semester)	5	3	2	3 1/3
221-591-VA	Plumbing & Fire Protection (5 th semester)	4	2	3	3	221-xxx-VA	Fire Protection Systems (5 th semester)	2	2	2	2
						221-xxx-VA	Plumbing Systems (5 th semester)	3	2	2	2 1/3
221-695-VA	HVAC and Plumbing Project (6 th semester)	4	4	3	3 2/3	221-695-VA	HVAC Project (6 th semester)	4	3	2	3
221-594-VA	HVAC Controls (5 th semester)	3	3	3	3	221-594-VA	HVAC Controls (5 th semester)	3	2	3	2 2/3
221-694-VA	Energy Management (sixth semester)	3	2	2	2 1/3	221-694-VA	Energy Management (sixth semester)	2	2	2	2
	Total credits				15 1/3		Total credits				15 1/3

**Table 1
BSET (221.C0) Current Grid (Fall Entry Group)**

First Session (Fall)						Second Session (Winter)					
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits
221-194-VA	Principles of Electric Controls	3	2	3	2 2/3	221-291-VA	Introduction to HVAC-CAD	2	2	3	2 1/3
420-704-VA	Computer Software	1	2	2	1 2/3	221-292-VA	Introduction to HVAC & Constuction	2	2	1	1 2/3
	English	2	2	4	2 2/3	221-293-VA	Principles of Heat & Fluids	4	2	3	3
	Humanities	4	0	3	2 1/3	201-291-VA	Applied Mathematics	3	2	3	2 2/3
	Phys Ed	1	1	1	1		English (B)	2	2	3	2 1/3
	French	3	0	3	2		French (B)	3	0	3	2
	Complementary	3	0	3	2		Phys Ed	1	1	1	1
	Session Total	17	7	19	14 1/3		Session Total	17	11	17	15
Third Session (Fall)						Fourth Session (Winter)					
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits
221-391-VA	HVAC System Layouts-CAD	2	3	2	2 1/3	221-492-VA	Industrial Ventilation	2	2	3	2 1/3
221-392-VA	Ventilation Systems	3	3	3	3	221-493-VA	Heating Systems	4	4	2	3 1/3
201-391-VA	Elements of Calculus	3	2	3	2 2/3	221-494-VA	Electrical & Lighting Systems	3	2	2	2 1/3
203-391-VA	Mechanics	2	2	2	2	221-495-VA	Refrigeration Systems	3	3	2	2 2/3
311-391-VA	Construction Security & Codes	2	1	0	1	203-491-VA	Strength of Materials	2	2	1	1 2/3
	English	2	2	3	2 1/3		English	2	2	2	2
	Humanities (B)	3	0	3	2		Complementary	3	0	3	2
	Session Total	17	13	16	15 1/3		Session Total	19	15	15	16 1/3
Fifth Session (Fall)						Sixth Session (Winter)					
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits
221-591-VA	Plumbing & Fire Protection Systems	4	2	3	3	221-692-VA	HVAC Cost Estimation	3	2	2	2 1/3
221-592-VA	Air Conditioning Systems	3	3	3	3	221-693-VA	HVAC Project Management	2	2	3	2 1/3
221-594-VA	HVAC Controls	3	3	3	3	221-694-VA	Energy Conservation	3	2	2	2 1/3
221-595-VA	Refrigeration Project	2	2	3	2 1/3	221-695-VA	HVAC & Plumbing Project	4	4	3	3 2/3
350-591-VA	Psychology of the Workplace	3	0	3	2	221-696-VA	Stage	0	10	1	3 2/3
	Humanities	3	0	3	2		Phys Ed	1	1	1	1
	Session Total	18	10	18	15 1/3		Session Total	13	21	12	15 1/3
Program Totals											
			Con-	Total	Credits						
	Program Specific		2010	2925	65						
	General Education		660	1200	26 2/3						
	Overall Program Totals		2670	4125	91 2/3						

**Table 2
BSET (221.C0) Current Grid (Winter Entry Group)**

					First Session (Winter)							
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits	
221-291-VA	Introduction to HVAC-CAD	2	2	3	2 1/3	221-291-VA	Introduction to HVAC-CAD	2	2	3	2 1/3	
221-292-VA	Introduction to HVAC & Constuction	2	2	1	1 2/3	221-292-VA	Introduction to HVAC & Constuction	2	2	1	1 2/3	
221-293-VA	Principles of Heat & Fluids	4	2	3	3	221-293-VA	Principles of Heat & Fluids	4	2	3	3	
201-291-VA	Applied Mathematics	3	2	3	2 2/3	201-291-VA	Applied Mathematics	3	2	3	2 2/3	
420-704-VA	Computer Software	1	2	2	1 2/3	420-704-VA	Computer Software	1	2	2	1 2/3	
	English	2	2	4	2 2/3		English	2	2	4	2 2/3	
	French	3	0	3	2		French	3	0	3	2	
	Phys Ed	1	1	1	1		Phys Ed	1	1	1	1	
	Session Total	18	13	20	17		Session Total	18	13	20	17	
					Second Session (Fall)							
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits	
221-194-VA	Principles of Electric Controls	3	2	3	2 2/3	221-492-VA	Industrial Ventilation	2	2	3	2 1/3	
221-391-VA	HVAC System Layouts-CAD	2	3	2	2 1/3	221-493-VA	Heating Systems	4	4	2	3 1/3	
221-392-VA	Ventilation Systems	3	3	3	3	221-494-VA	Electrical & Lighting Systems	3	2	2	2 1/3	
201-391-VA	Elements of Calculus	3	2	3	2 2/3	221-495-VA	Refrigeration Systems	3	3	2	2 2/3	
203-391-VA	Mechanics	2	2	2	2	203-491-VA	Strength of Materials	2	2	1	1 2/3	
311-391-VA	Construction Security & Codes	2	1	0	1							
	English (B)	2	2	3	2 1/3		English	2	2	3	2 1/3	
	Humanities	3	0	3	2		Complementary	3	0	3	2	
	Session Total	20	15	19	18		Session Total	19	15	16	16 2/3	
					Fourth Session (Fall)							
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits	
221-591-VA	Plumbing & Fire Protection Systems	4	2	3	3	221-692-VA	HVAC Cost Estimation	3	2	2	2 1/3	
221-592-VA	Air Conditioning Systems	3	3	3	3	221-693-VA	HVAC Project Management	2	2	3	2 1/3	
221-594-VA	HVAC Controls	3	3	3	3	221-694-VA	Energy Management	3	2	2	2 1/3	
221-595-VA	Refrigeration Project	2	2	3	2 1/3	221-695-VA	HVAC & Plumbing Project	4	4	3	3 2/3	
350-591-VA	Psychology of the Workplace	3	0	3	2	221-696-VA	Stage	0	10	1	3 2/3	
	English	2	2	2	2							
	Humanities	3	0	3	2		Phys Ed	1	1	1	1	
	Session Total	20	12	20	17 1/3		Session Total	13	21	12	15 1/3	
					Sixth Session (Fall)							
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits	
	French	3	0	3	2							
	Humanities	4	0	3	2 1/3							
	Phys Ed	1	1	1	1							
	Complementary	3	0	3	2							
	Session Total	11	1	10	7 1/3							
										Program Totals		
								Con-	Total	Credits		
Program Specific								2010	2925	65		
General Education								660	1200	26 2/3		
Overall Program Totals								2670	4125	91 2/3		

**Table 3
BSET (221.C0) Proposed Grid (Fall Entry Group)**

First Session (Fall)						Second Session (Winter)					
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits
221-194-VA	Principles of Electric Controls	3	2	3	2 2/3	221-291-VA	Introduction to HVAC-CAD	2	2	3	2 1/3
420-704-VA	Computer Software	1	2	2	1 2/3	221-292-VA	Introduction to HVAC & Constuction	2	2	1	1 2/3
	English	2	2	4	2 2/3	221-293-VA	Principles of Heat & Fluids	4	2	3	3
	Humanities	4	0	3	2 1/3	201-291-VA	Applied Mathematics	3	2	3	2 2/3
	Phys Ed	1	1	1	1		English	2	2	3	2 1/3
	French	3	0	3	2		Humanities	3	0	3	2
	Complementary	3	0	3	2		Phys Ed	1	1	1	1
	Session Total	17	7	19	14 1/3		Session Total	17	11	17	15
Third Session (Fall)						Fourth Session (Winter)					
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits
221-391-VA	HVAC System Layouts-CAD	2	3	2	2 1/3	221-492-VA	Industrial Ventilation	2	2	3	2 1/3
221-392-VA	Ventilation Systems	3	3	3	3	221-493-VA	Heating Systems	5	3	2	3 1/3
201-391-VA	Elements of Calculus	3	2	3	2 2/3	221-494-VA	Electrical & Lighting Systems	3	2	2	2 1/3
203-391-VA	Mechanics	2	2	2	2	221-495-VA	Refrigeration Systems	3	3	2	2 2/3
311-391-VA	Construction Security & Codes	2	1	0	1	203-491-VA	Strength of Materials	2	2	1	1 2/3
	English	2	2	3	2 1/3		Humanities (B)	3	0	3	2
	French (B)	3	0	3	2		Complementary	3	0	3	2
	Session Total	17	13	16	15 1/3		Session Total	21	12	16	16 1/3
Fifth Session (Fall)						Sixth Session (Winter)					
Courses		Theory	Lab	Hwrk	Credits	Courses		Theory	Lab	Hwrk	Credits
221-xxx-VA	Fire Protection Systems	2	2	2	2	221-692-VA	HVAC Cost Estimation	3	2	2	2 1/3
221-xxx-VA	Plumbing Systems	3	2	2	2 1/3	221-693-VA	HVAC Project Management	2	2	3	2 1/3
221-592-VA	Air Conditioning Systems	3	3	3	3	221-694-VA	Energy Conservation	2	2	2	2
221-594-VA	HVAC Controls	3	2	3	2 2/3	221-695-VA	HVAC Project	4	3	2	3
221-595-VA	Refrigeration Project	2	2	3	2 1/3	221-696-VA	Stage	0	10	1	3 2/3
350-591-VA	Psychology of the Workplace	3	0	3	2		Phys Ed	1	1	1	1
	English (B)	2	2	2	2		Session Total	12	20	11	14 1/3
	Session Total	18	13	18	16 1/3						
Program Totals											
			Con-	Total	Credits						
	Program Specific		2010	2925	65						
	General Education		660	1200	26 2/3						
	Overall Program Totals		2670	4125	91 2/3						

**Table 4
BSET (221.C0) Proposed Grid (Winter Entry Group)**

						First Session (Winter)				
Courses		Theory	Lab	Hwrk	Credits					
221-291-VA	Introduction to HVAC-CAD	2	2	3	2 1/3					
221-292-VA	Introduction to HVAC & Constuction	2	2	1	1 2/3					
221-293-VA	Principles of Heat & Fluids	4	2	3	3					
201-291-VA	Applied Mathematics	3	2	3	2 2/3					
420-704-VA	Computer Software	1	2	2	1 2/3					
	Humanities	4	0	3	2 1/3					
	French	3	0	3	2					
	Phys Ed	1	1	1	1					
	Session Total	20	11	19	16 2/3					
						Second Session (Fall)				
Courses		Theory	Lab	Hwrk	Credits					
221-194-VA	Principles of Electric Controls	3	2	3	2 2/3					
221-391-VA	HVAC System Layouts-CAD	2	3	2	2 1/3					
221-392-VA	Ventilation Systems	3	3	3	3					
201-391-VA	Elements of Calculus	3	2	3	2 2/3					
203-391-VA	Mechanics	2	2	2	2					
311-391-VA	Construction Security & Codes	2	1	0	1					
	English	2	2	4	2 2/3					
	French (B)	3	0	3	2					
	Session Total	20	15	20	18 1/3					
						Third Session (Winter)				
Courses		Theory	Lab	Hwrk	Credits					
221-492-VA	Industrial Ventilation	2	2	3	2 1/3					
221-493-VA	Heating Systems	5	3	2	3 1/3					
221-494-VA	Electrical & Lighting Systems	3	2	2	2 1/3					
221-495-VA	Refrigeration Systems	3	3	2	2 2/3					
203-491-VA	Strength of Materials	2	2	1	1 2/3					
	English	2	2	3	2 1/3					
	Complementary	3	0	3	2					
	Session Total	20	14	16	16 2/3					
						Fourth Session (Fall)				
Courses		Theory	Lab	Hwrk	Credits					
221-xxx-VA	Fire Protection Systems	2	2	2	2					
221-xxx-VA	Plumbing Systems	3	2	2	2 1/3					
221-592-VA	Air Conditioning Systems	3	3	3	3					
221-594-VA	HVAC Controls	3	2	3	2 2/3					
221-595-VA	Refrigeration Project	2	2	3	2 1/3					
350-591-VA	Psychology of the Workplace	3	0	3	2					
	English	2	2	2	2					
	Phys Ed	1	1	1	1					
	Session Total	19	14	19	17 1/3					
						Fifth Session (Winter)				
Courses		Theory	Lab	Hwrk	Credits					
221-692-VA	HVAC Cost Estimation	3	2	2	2 1/3					
221-693-VA	HVAC Project Management	2	2	3	2 1/3					
221-694-VA	Energy Management	2	2	2	2					
221-695-VA	HVAC Project	4	3	2	3					
221-696-VA	Stage	0	10	1	3 2/3					
	Humanities (B)	3	0	3	2					
	Session Total	14	19	13	15 1/3					
						Sixth Session (Fall)				
Courses		Theory	Lab	Hwrk	Credits					
	English (B)	2	2	3	2 1/3					
	Humanities	3	0	3	2					
	Phys Ed	1	1	1	1					
	Complementary	3	0	3	2					
	Session Total	9	3	10	7 1/3					
						Program Totals				
						Con-	Total	Credits		
Program Specific						2010	2925	65		
General Education						660	1200	26 2/3		
Overall Program Totals						2670	4125	91 2/3		

PROPOSED CHANGES TO COMPETENCIES:

After three years of implementing the new program, the department felt that some corrections are necessary to the way some competencies are assigned to certain courses. The reasons for such corrections are:

- The proposed change to the grid require that some competencies be re-assigned.
- Some competencies were erroneously assigned to some courses.
- Some competencies will be served better if they were assign to different course than the current one.

The table below summarizes those changes. Tables 5 shows the current Course-Competency Matrix and table 6 shows the proposed changes. Table 7 identifies each competency.

Proposed Competencies Changes:

		Current Competencies	Proposed Competencies
Course Number	Course Title		
221-392-VA	Ventilation Systems	01UU, 01UX, 01UY, 01V6	01UU, 01UX, 01UY, 01V6, 01V7
221-494-VA	Electrical & Lighting Systems	01US, 01UX, 01UY, 01V6	01US, 01UY, 01V6
221-592-VA	Air Conditioning Systems	01UU, 01UX, 01UY, 01V6	01UU, 01UX, 01V6
221-594-VA	HVAC Controls	01US, 01UX, 01V6, 01VB	01US, 01UW, 01UX, 01V6
221-595-VA	Refrigeration Project	01UZ, 01V5, 01V7, 01VB	01UZ, 01V5, 01VB
221-693-VA	HVAC Project Management	01UZ, 01V7, 01VA, 01VB	01UZ, 01VB
221-694-VA	Energy Management	01UW, 01UX, 01V7, 01VA	01UX, 01V7, 01VA
221-696-VA	Stage	01UX, 01V6, 01V8, 01VB	01UX, 01V6, 01V8, 01VB, 01V9
311-391-VA	Construction Security & Codes	01UK, 01UZ	01UK
350-591-VA	Psychology of the Workplace	01V1, 01V9	01V1
221-xxx-VA	Fire Protection Systems	01UR, 01UX, 01UY, 01UZ, 01V6	01UX, 01UY, 01UZ, 01V6
221-xxx-VA	Plumbing Systems		01UR, 01UX, 01UY, 01UZ, 01V2
221-695-VA	HVAC Project	01V2, 01V3, 01V4, 01VB	01V3, 01V4, 01VB

**Table 5
BSET (221.C0) Current Competency Matrix**

	Course Number	Course Title	Competencies (Program Specific)																											
			01UJ Job functions	01UK Safety/Security	01UL Physics Skills	01UM Fluid Flow	01UN Computer skills	01UP Sys draft. Skills	01UQ Appl.Math Skills	01UR Plumbing systems	01US Elec. Control circuits	01UT Heating Systems	01UU Vent. & A/c Systems	01UV Ref. Systems	01UW Auto. Control sys.	01UX System Operation	01UY Codes investigation	01UZ Codes compliance	01V0 Tech. drawing of sys.	01V1 Work relations	01V2 Plumb/piping sys.design	01V3 Heating System design	01V4 Vent/AC sys.Design	01V5 Ref. System Design	01V6 System Maintenance	01V7 System Balancing	01V8 Cost estimation	01V9 Tech. sales Skills	01VA Sys. Op. Optimization	01VB System Installation
1	221-194-VA	Principles of Electric Controls							X																					
2	221-291-VA	Introduction to HVAC-CAD					X																							
3	221-292-VA	Introduction to HVAC & Construction	X																											
4	221-293-VA	Principles of Heat & Fluids			X					X																				
5	221-391-VA	HVAC System Layouts – CAD																X												
6	221-392-VA	Ventilation Systems									X				X	X								X						
7	221-492-VA	Industrial Ventilation									X						X													X
8	221-493-VA	Heating Systems								X					X	X								X						
9	221-494-VA	Electrical & Lighting Systems							X						X	X								X						
10	221-495-VA	Refrigeration Systems										X			X	X								X						
11	221-xxx-VA	Plumbing & Fire Protection Systems							X						X	X								X						
12	221-592-VA	Air Conditioning Systems									X				X	X								X						
13	221-594-VA	HVAC Controls							X						X									X						X
14	221-595-VA	Refrigeration Project															X						X		X					X
15	221-692-VA	HVAC Cost Estimation																									X			
16	221-693-VA	HVAC Project Management															X								X			X		X
17	221-694-VA	Energy Conservation												X	X										X			X		
18	221-695-VA	HVAC & Plumbing Project																		X	X	X								X
19	221-696-VA	Stage													X									X		X				X
20	201-291-VA	Applied Mathematics.							X																					
21	201-391-VA	Elements of Calculus							X																					
22	203-391-VA	Mechanics			X																									
23	203-491-VA	Strength of Materials			X																									
24	311-391-VA	Construction Security & Codes	X														X													
25	350-591-VA	Psychology of the Workplace																	X									X		
26	420-704-VA	Computer Software				X																								

Table 6
BSET (221.C0) Proposed Competency Matrix

	Course Number	Course Title	Competencies (Program Specific)																											
			01UJ Job functions	01UK Safety/Security	01UL Physics Skills	01UM Fluid Flow	01UN Computer skills	01UP Sys draft. Skills	01UQ Appl.Math Skills	01UR Plumbing systems	01US Elec. Control circuits	01UT Heating Systems	01UU Vent.& A/c Systems	01UV Ref. Systems	01UW Auto. Control sys.	01UX System Operation	01UY Codes investigation	01UZ Codes compliance	01V0 Tech. drawing of sys.	01V1 Work relations	01V2 Plumb/piping sys.design	01V3 Heating System design	01V4 Vent/AC sys.Design	01V5 Ref. System Design	01V6 System Maintenance	01V7 System Balancing	01V8 Cost estimation	01V9 Tech. sales Skills	01VA Sys. Op. Optimization	01VB System Installation
1	221-194-VA	Principles of Electric Controls								X																				
2	221-291-VA	Introduction to HVAC-CAD						X																						
3	221-292-VA	Introduction to HVAC & Construction	X																											
4	221-293-VA	Principles of Heat & Fluids				X					X																			
5	221-391-VA	HVAC System Layouts – CAD																	X											
6	221-392-VA	Ventilation Systems										X			X	X								X	X					
7	221-492-VA	Industrial Ventilation										X					X													X
8	221-493-VA	Heating Systems									X				X	X								X						
9	221-494-VA	Electrical & Lighting Systems								X					X	X								X						
10	221-495-VA	Refrigeration Systems											X		X	X								X						
11	221-xxx-VA	Fire Protection Systems													X	X	X							X						
12	221-xxx-VA	Plumbing Systems								X					X	X	X				X									
13	221-592-VA	Air Conditioning Systems										X			X	X								X						
14	221-594-VA	HVAC Controls								X				X	X									X						X
15	221-595-VA	Refrigeration Project															X						X		X					X
16	221-692-VA	HVAC Cost Estimation																									X			
17	221-693-VA	HVAC Project Management																X							X					X
18	221-694-VA	Energy Conservation												X	X										X			X		X
19	221-695-VA	HVAC Project																				X	X							X
20	221-696-VA	Stage													X									X		X	X	X		X
21	201-291-VA	Applied Mathematics.								X																				
22	201-391-VA	Elements of Calculus								X																				
23	203-391-VA	Mechanics			X																									
24	203-491-VA	Strength of Materials			X																									
25	311-391-VA	Construction Security & Codes		X													X													
26	350-591-VA	Psychology of the Workplace																		X								X		
27	420-704-VA	Computer Software					X																							

Table 7
BSET (221-C0) program specific competencies (MEQ)

Code	Statement of Competency
01UJ	To analyze the occupational functions.
01UK	To take responsibility for health and construction safety activities.
01UL	To analyze the stresses, forces and loads applied to building systems.
01UM	To analyze the conditions for fluid transmission in building systems.
01UN	To use a computerized work station.
01UP	To interpret drawings and specifications.
01UQ	To solve problems related to building systems using mathematical formulas.
01UR	To establish relationships between plumbing and piping systems and their operation.
01US	To check the operation of electrical control circuits.
01UT	To establish relationships between heating systems and their operation.
01UU	To establish relationships between ventilation and air conditioning systems and their operation.
01UV	To establish relationships between refrigeration systems and their operation.
01UW	To determine the technical specifications for automatic system control.
01UX	To operate systems.
01UY	To consult the regulations.
01UZ	To check that the technical drawings and specifications comply with regulations.
01V0	To make technical drawings of systems.
01V1	To establish work relations.
01V2	To design plumbing and piping systems.
01V3	To design heating systems.
01V4	To design ventilation and air conditioning systems.
01V5	To design refrigeration systems.
01V6	To supervise system maintenance.
01V7	To balance hydraulic and aeraulic components of building systems.
01V8	To estimate costs related to building systems.
01V9	To perform technical sales tasks.
01VA	To optimize the operation of building systems.
01VB	To supervise the installation of a system.