

## 2014 ACI FRC BOWLING BALL COMPETITION WINNERS

### ***PRESENTATION CATEGORY***

First Place – University of Louisiana, Lafayette

Bliss Kelly, Michelle Campbell, Jeanne Switzer and Aimee Duhon

Faculty Advisor: Dr. Chris Carroll



Second Place - Ryerson University

Shahid Quraishi, Mo'tasem Aljawhary, Osama Al-Mohammedi, Mahmoud Al-Fayez and Yousuf Faroqi

Faculty Advisor: Dr. Medhat Shehata



Third Place – New Jersey Institute of Technology

Eric Gedman, Adrian Milewski, Michelle Neri, David Jaramillo and David Williams

Faculty Advisor: Dr. Mohamed Mahgoub



## ***PERFORMANCE CATEGORY***

First Place - Universidad Autónoma de Nuevo León – UANLA

Elmy M. Cabello-Sekely, Rolando D. Garcia-Gan, Mario Hernandez-Hernandez, Bianca G. Esquivel-Alonso and Jose E. Ruiz-Bautista

Faculty Advisor: Dr. Alejandro Durán Herrera



Second Place- Ryerson University

Shahid Quraishi, Mo'tasem Aljawhary, Osama Al-Mohammedi, Mahmoud Al-Fayez and Yousuf Faroqi

Faculty Advisor: Dr. Medhat Shehata



Third Place - Pittsburg State University

Storm Schnake, Lauren Bohannon and Blake Swaggerty

Faculty Advisor: Seth O'Brien



ACI 2014 Spring Convention  
FRC Bowling Ball Competition Results Summary  
Reno, NV

2014 Bowling Ball Test Evaluation and Competition Points Assignment														
Performance Points Summary Sheet			Performance Category								Poster Category			
	Ball	Ball	Mass	Diameter	Bowling	Deform.	Tough.	DISQ	Total	Entry	Win - 1	Avg	Overall	Win - 1
Team Name	Code	No.	Points	Points	Points	Points	Points	Entries	Points	Rank	Place - 2	Score	Rank	Place - 2
			10 %	10 %	30 %	20 %	30 %		100		Show -3			Show -3
Arizona State University	DEVLS	2	8.25	9.00	23.33	0.00	0.43	----	41.01	30	-			
Florida Atlantic University	TWINS	1	8.73	8.50	11.67	6.45	11.95	----	47.30	26	-	74.0	11	-
Florida International University	FIUCE	1	9.29	9.33	16.11	13.07	10.45	----	58.25	19	-	77.4	9	-
Florida International University	OHLSC	2	9.97	10.00	22.78	18.21	13.33	----	74.28	5	-	72.4	12	-
Instituto Politecnico Nacional	ACIPN	1	-18.00	DISQ	0.00	#DIV/0!	0.00	DISQ	0.00	32	-			
Instituto Tecnologico De La Paz/Camara De La Construccion	ITDLP	1	6.31	9.17	22.22	0.00	6.38	----	44.09	28	-			
New Jersey Institute of Technology	NJITA	1	8.31	8.17	15.56	14.26	11.90	----	58.20	20	-	80.0	3	Show - 3
North Carolina State University	NCSUR	1	9.89	9.67	11.67	16.04	13.66	----	60.92	15	-			
North Carolina State University	NCSUW	1	8.65	10.00	30.00	14.57	8.50	----	71.72	8	-	57.8	15	-
NYC College of Technology	NYCCT	2	9.82	9.67	17.78	12.21	3.47	----	52.94	23	-			
Pittsburg State University	PSUTA	1	9.56	9.00	29.44	14.68	12.92	----	75.60	3	Show - 3			
Pittsburg State University	PSUTB	1	9.85	9.50	21.11	12.70	10.40	----	63.56	13	-			
Polytechnic University of Puerto Rico	PUOPR	1	9.69	8.33	13.89	8.03	13.37	----	53.31	22	-	78.2	5	-
Pontificia Universidad Catolica Del Ecuador	PUCEA	2	9.79	9.67	22.22	5.78	12.89	----	60.35	18	-	36.4	17	-
Purdue University	BLRUP	1	7.24	9.67	18.33	15.62	11.75	----	62.61	14	-			
Ryerson University	RYEUN	1	9.05	10.00	18.33	16.95	23.91	----	78.25	2	Place - 2	80.2	2	Place - 2
Southern Illinois University of Edwardsville	SIUEA	2	8.43	10.00	22.78	17.72	15.91	----	74.83	4	-	78.2	5	-
Southern Illinois University of Edwardsville	SIUEJ	1	8.17	9.50	14.44	18.87	16.42	----	67.40	11	-			
Universidad Autonoma De Nuevo Leon	UANLA	1	9.36	10.00	26.67	11.49	30.00	----	87.52	1	Win - 1	67.8	13	-
Universidad Autonoma De Nuevo Leon	UANLB	1	-18.00	DISQ	0.00	#DIV/0!	0.00	DISQ	0.00	32	-	74.2	10	-
Universidad Central Del Ecuador	UCECA	2	9.81	10.00	22.78	15.52	14.97	----	73.07	6	-	67.4	14	-
Universidad Central Del Ecuador	UCEJC	2	9.64	9.67	22.78	17.50	13.11	----	72.71	7	-	56.4	16	-
University of Arkansas	RZRBK	2	3.75	8.67	18.33	2.96	8.79	----	42.49	29	-	79.4	4	-
University of Illinois at Urbana-Champaign	UIUCA	2	6.34	9.67	28.89	5.36	4.16	----	54.42	21	-			
University of Louisiana at Lafayette	ULLAF	2	9.87	9.67	21.11	0.00	3.47	----	44.11	27	-	83.2	1	Win - 1
University of Manitoba	DHJLS	1	0.05	9.33	11.67	15.76	0.82	----	37.62	31	-	78.0	7	-
University of Manitoba	JLDTM	1	1.89	9.67	29.44	19.42	0.00	----	60.42	17	-	77.6	8	-
University of Minnesota Duluth	UOFMN	2	8.04	9.33	18.89	4.31	19.87	----	60.45	16	-			
University of Missouri -Kansas City	UMKCI	1	9.34	7.50	18.33	17.28	13.59	----	66.05	12	-			
University of Missouri Science and Technology	MSTAA	1	3.96	9.33	26.11	18.82	12.10	----	70.32	9	-			
University of Missouri Science and Technology	MSTBB	1	3.64	10.00	11.67	16.40	9.57	----	51.27	24	-			
University of Nevada, Reno	UNRRR	1	8.25	6.67	25.56	1.09	6.79	----	48.35	25	-			
University of Utah	UOFUT	2	9.73	7.00	18.89	19.12	12.69	----	67.42	10	-			

2014 Bowling Ball Test Evaluation and Competition Points Assignment															
Mass Test Computation Sheet															
			Mass	M > 5.5=0		Mass									
	Ball	Ball	Test Score	M ≤ 5.5=1	ML	Points									
Team Name	Code	No.	kg.	0=Disqual											
Arizona State University	DEVLS	2	5.156	1	3.536	8.25									
Florida Atlantic University	TWINS	1	5.25	1	3.536	8.73									
Florida International University	FIUCE	1	5.36	1	3.536	9.29									
Florida International University	OHLSC	2	5.494	1	3.536	9.97									
Instituto Politecnico Nacional	ACIPN	1		1	3.536	-18.00									
Instituto Tecnologico De La Paz/Camara De La Construccion	ITDLP	1	4.776	1	3.536	6.31									
New Jersey Institute of Technology	NJITA	1	5.168	1	3.536	8.31									
North Carolina State University	NCSUR	1	5.478	1	3.536	9.89									
North Carolina State University	NCSUW	1	5.234	1	3.536	8.65									
NYC College of Technology	NYCCT	2	5.464	1	3.536	9.82									
Pittsburg State University	PSUTA	1	5.414	1	3.536	9.56									
Pittsburg State University	PSUTB	1	5.47	1	3.536	9.85									
Polytechnic University of Puerto Rico	PUOPR	1	5.44	1	3.536	9.69									
Pontificia Universidad Catolica Del Ecuador	PUCEA	2	5.458	1	3.536	9.79									
Purdue University	BLRUP	1	4.958	1	3.536	7.24									
Ryerson University	RYEUN	1	5.314	1	3.536	9.05									
Southern Illinois University of Edwardsville	SIUEA	2	5.192	1	3.536	8.43									
Southern Illinois University of Edwardsville	SIUEJ	1	5.14	1	3.536	8.17									
Universidad Autonoma De Nuevo Leon	UANLA	1	5.374	1	3.536	9.36									
Universidad Autonoma De Nuevo Leon	UANLB	1		1	3.536	-18.00									
Universidad Central Del Ecuador	UCECA	2	5.462	1	3.536	9.81									
Universidad Central Del Ecuador	UCEJC	2	5.43	1	3.536	9.64									
University of Arkansas	RZRBK	2	4.272	1	3.536	3.75									
University of Illinois at Urbana-Champaign	UIUCA	2	4.782	1	3.536	6.34									
University of Louisiana at Lafayette	ULLAF	2	5.474	1	3.536	9.87									
University of Manitoba	DHJLS	1	3.546	1	3.536	0.05									
University of Manitoba	JLDTM	1	3.908	1	3.536	1.89									
University of Minnesota Duluth	UOFMN	2	5.116	1	3.536	8.04									
University of Missouri -Kansas City	UMKCI	1	5.37	1	3.536	9.34									
University of Missouri Science and Technology	MSTAA	1	4.314	1	3.536	3.96									
University of Missouri Science and Technology	MSTBB	1	4.25	1	3.536	3.64									
University of Nevada, Reno	UNRRR	1	5.156	1	3.536	8.25									
University of Utah	UOFUT	2	5.446	1	3.536	9.73									



2014 Bowling Ball Test Evaluation and Competition Points Assignment							
<b>Diameter Test Computation Sheet</b>							
			Diameter	Diameter	Diameter	Diameter	Diameter
	Ball	Ball	Score 1	Score 2	Score 3	is in	Points
Team Name	Code	No.	mm	mm	mm	Spec.	
Arizona State University	DEVLS	2	199	199	202	TRUE	9.00
Florida Atlantic University	TWINS	1	201	196	200	TRUE	8.50
Florida International University	FIUCE	1	210	210	212	TRUE	9.33
Florida International University	OHLSA	2	201	201	201	TRUE	10.00
Instituto Politecnico Nacional	ACIPN	1				FALSE	DISQ
Instituto Tecnologico De La Paz/Camara De La Construccion	ITDLP	1	189	192	191	TRUE	9.17
New Jersey Institute of Technology	NJITA	1	202	208	203	TRUE	8.17
North Carolina State University	NCSUR	1	201	201	202	TRUE	9.67
North Carolina State University	NCSUW	1	201	201	201	TRUE	10.00
NYC College of Technology	NYCCT	2	204	203	204	TRUE	9.67
Pittsburg State University	PSUTA	1	192	192	195	TRUE	9.00
Pittsburg State University	PSUTB	1	193	192	191	TRUE	9.50
Polytechnic University of Puerto Rico	PUOPR	1	190	190	185	TRUE	8.33
Pontificia Universidad Catolica Del Ecuador	PUCEA	2	196	197	197	TRUE	9.67
Purdue University	BLRUP	1	205	205	204	TRUE	9.67
Ryerson University	RYEUN	1	205	205	205	TRUE	10.00
Southern Illinois University of Edwardsville	SIUEA	2	190	190	190	TRUE	10.00
Southern Illinois University of Edwardsville	SIUEJ	1	189	190	191	TRUE	9.50
Universidad Autonoma De Nuevo Leon	UANLA	1	191	191	191	TRUE	10.00
Universidad Autonoma De Nuevo Leon	UANLB	1				FALSE	DISQ
Universidad Central Del Ecuador	UCECA	2	197	197	197	TRUE	10.00
Universidad Central Del Ecuador	UCEJC	2	194	193	194	TRUE	9.67
University of Arkansas	RZRBK	2	202	207	205	TRUE	8.67
University of Illinois at Urbana-Champaign	UIUCA	2	196	196	197	TRUE	9.67
University of Louisiana at Lafayette	ULLAF	2	186	187	187	TRUE	9.67
University of Manitoba	DHJLS	1	202	202	200	TRUE	9.33
University of Manitoba	JLDTM	1	201	201	200	TRUE	9.67
University of Minnesota Duluth	UOFMN	2	200	200	198	TRUE	9.33
University of Missouri -Kansas City	UMKCI	1	193	201	200	TRUE	7.50
University of Missouri Science and Technology	MSTAA	1	196	198	198	TRUE	9.33
University of Missouri Science and Technology	MSTBB	1	197	197	197	TRUE	10.00
University of Nevada, Reno	UNRRR	1	205	215	215	TRUE	6.67
University of Utah	UOFUT	2	200	200	191	TRUE	7.00

2014 Bowling Ball Test Evaluation and Competition Points Assignment													
Bowling Test Computation Sheet													
Team Name	Ball Code	Ball No.	Frame 1			Frame 2			Frame 3			Bowling Points	
			1st Ball	2nd Ball		3rd Ball	4th Ball		5th Ball	6th Ball	7th Ball		
Arizona State University	DEVLS	2	6	0	12	4	2	24	6	6	6	42	7.78
Florida Atlantic University	TWINS	1	5	0	5	4	0	9	6	5	1	21	3.89
Florida International University	FIUCE	1	6	0	12	3	3	19	1	5	4	29	5.37
Florida International University	OHLS	2	6	0	17	6	0	29	5	1	6	41	7.59
Instituto Politecnico Nacional	ACIPN	1			0			0				0	0.00
Instituto Tecnologico De La Paz/Camara De La Construccion	ITDLP	1	6	0	12	5	1	24	6	6	4	40	7.41
New Jersey Institute of Technology	NJITA	1	6	0	11	5	0	16	5	1	6	28	5.19
North Carolina State University	NCSUR	1	6	0	11	3	2	16	5	0	0	21	3.89
North Carolina State University	NCSUW	1	6	0	18	6	0	36	6	6	6	54	10.00
NYC College of Technology	NYCCT	2	5	0	5	5	1	17	6	6	3	32	5.93
Pittsburg State University	PSUTA	1	6	0	18	6	0	36	6	6	5	53	9.81
Pittsburg State University	PSUTB	1	5	1	12	6	0	27	6	3	2	38	7.04
Polytechnic University of Puerto Rico	PUOPR	1	6	0	11	3	2	16	6	3	0	25	4.63
Pontificia Universidad Catolica Del Ecuador	PUCEA	2	6	0	16	6	0	28	4	2	6	40	7.41
Purdue University	BLRUP	1	6	0	11	5	0	16	6	6	5	33	6.11
Ryerson University	RYEUN	1	6	0	17	6	0	28	5	0	0	33	6.11
Southern Illinois University of Edwardsville	SIUEA	2	3	3	12	6	0	29	6	5	1	41	7.59
Southern Illinois University of Edwardsville	SIUEJ	1	5	1	10	4	0	14	6	5	1	26	4.81
Universidad Autonoma De Nuevo Leon	UANLA	1	5	1	12	6	0	30	6	6	6	48	8.89
Universidad Autonoma De Nuevo Leon	UANLB	1			0			0				0	0.00
Universidad Central Del Ecuador	UCECA	2	5	1	12	6	0	29	6	5	1	41	7.59
Universidad Central Del Ecuador	UCEJC	2	3	2	5	6	0	23	6	6	6	41	7.59
University of Arkansas	RZRBK	2	6	0	17	6	0	28	5	0	0	33	6.11
University of Illinois at Urbana-Champaign	UIUCA	2	6	0	18	6	0	36	6	6	4	52	9.63
University of Louisiana at Lafayette	ULLAF	2	6	0	15	6	0	27	3	3	5	38	7.04
University of Manitoba	DHJLS	1	6	0	11	5	0	16	5	0	0	21	3.89
University of Manitoba	JLDTM	1	6	0	18	6	0	36	6	6	5	53	9.81
University of Minnesota Duluth	UOFMN	2	6	0	11	5	0	16	6	6	6	34	6.30
University of Missouri -Kansas City	UMKCI	1	6	0	17	6	0	28	5	0	0	33	6.11
University of Missouri Science and Technology	MSTAA	1	6	0	18	6	0	35	6	5	1	47	8.70
University of Missouri Science and Technology	MSTBB	1	6	0	11	5	0	16	5	0	0	21	3.89
University of Nevada, Reno	UNRRR	1	6	0	18	6	0	35	6	5	0	46	8.52
University of Utah	UOFUT	2	5	0	5	6	0	22	6	5	1	34	6.30

2014 Bowling Ball Test Evaluation and Competition Points Assignment						
<b>Deformation Test Computation Sheet</b>						
			Predicted	Deform.	Raw	Corrected
	Ball	Ball	Test Score	Test Score	Deform	Deform
Team Name	Code	No.	lbs	lbs	Points	Points
Arizona State University	DEVLS	2	5395	840	-44.23	0.00
Florida Atlantic University	TWINS	1	23500	14010	3.23	3.23
Florida International University	FIUCE	1	8138	12450	6.54	6.54
Florida International University	OHLS	2	11240	12345	9.10	9.10
Instituto Politecnico Nacional	ACIPN	1			#DIV/0!	#DIV/0!
Instituto Tecnologico De La Paz/Camara De La Construccion	ITDLP	1	17993	6765	-6.60	0.00
New Jersey Institute of Technology	NJITA	1	9530	13365	7.13	7.13
North Carolina State University	NCSUR	1	13938	11635	8.02	8.02
North Carolina State University	NCSUW	1	13938	10960	7.28	7.28
NYC College of Technology	NYCCT	2	5620	4045	6.11	6.11
Pittsburg State University	PSUTA	1	15062	11895	7.34	7.34
Pittsburg State University	PSUTB	1	14612	10705	6.35	6.35
Polytechnic University of Puerto Rico	PUOPR	1	23081	14440	4.02	4.02
Pontificia Universidad Catolica Del Ecuador	PUCEA	2	15628	9135	2.89	2.89
Purdue University	BLRUP	1	10790	13815	7.81	7.81
Ryerson University	RYEUN	1	21350	25190	8.48	8.48
Southern Illinois University of Edwardsville	SIUEA	2	15287	17255	8.86	8.86
Southern Illinois University of Edwardsville	SIUEJ	1	15287	14470	9.44	9.44
Universidad Autonoma De Nuevo Leon	UANLA	1	14886	25900	5.75	5.75
Universidad Autonoma De Nuevo Leon	UANLB	1			#DIV/0!	#DIV/0!
Universidad Central Del Ecuador	UCECA	2	16628	13585	7.76	7.76
Universidad Central Del Ecuador	UCEJC	2	14109	16120	8.75	8.75
University of Arkansas	RZRBK	2	16253	8775	1.48	1.48
University of Illinois at Urbana-Champaign	UIUCA	2	1304	4865	2.68	2.68
University of Louisiana at Lafayette	ULLAF	2	9185	4180	-1.97	0.00
University of Manitoba	DHJLS	1	1000	825	7.88	7.88
University of Manitoba	JLDTM	1	674	655	9.71	9.71
University of Minnesota Duluth	UOFMN	2	4957	22980	2.16	2.16
University of Missouri -Kansas City	UMKCI	1	14904	13120	8.64	8.64
University of Missouri Science and Technology	MSTAA	1	12400	13180	9.41	9.41
University of Missouri Science and Technology	MSTBB	1	13083	11085	8.20	8.20
University of Nevada, Reno	UNRRR	1	449	8210	0.55	0.55
University of Utah	UOFUT	2	20350	19490	9.56	9.56

2014 Bowling Ball Test Evaluation and Competition Points Assignment											
Toughness Test Computation Sheet											
			Load	Load	Load	Load	Load	Average	Min-Avg	Max-Avg	Tough
	Ball	Ball	at 5 mm	at 10 mm	at 15 mm	at 20 mm	at 25 mm	Load	Load	Load	Points
Team Name	Code	No.	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	
Arizona State University	DEVLS	2	1625	1515	1190	1030	840	1240	853	27855	0.14
Florida Atlantic University	TWINS	1	7380	10925	10330	15410	14010	11611	853	27855	3.98
Florida International University	FIUCE	1	4185	8940	14270	11445	12450	10258	853	27855	3.48
Florida International University	OHLSC	2	9690	14035	14175	13995	12345	12848	853	27855	4.44
Instituto Politecnico Nacional	ACIPN	1						853	853	27855	0.00
Instituto Tecnologico De La Paz/Camara De La Construccion	ITDLP	1	4435	9700	6080	6015	6765	6599	853	27855	2.13
New Jersey Institute of Technology	NJITA	1	7270	13000	11235	12965	13365	11567	853	27855	3.97
North Carolina State University	NCSUR	1	10140	16245	14620	13095	11635	13147	853	27855	4.55
North Carolina State University	NCSUW	1	3850	7835	11555	8340	10960	8508	853	27855	2.83
NYC College of Technology	NYCCT	2	3685	4045	4045	4045	4045	3973	853	27855	1.16
Pittsburg State University	PSUTA	1	14010	11160	11500	13860	11895	12485	853	27855	4.31
Pittsburg State University	PSUTB	1	10125	10190	10645	9405	10705	10214	853	27855	3.47
Polytechnic University of Puerto Rico	PUOPR	1	15770	9845	11155	13205	14440	12883	853	27855	4.46
Pontificia Universidad Catolica Del Ecuador	PUCEA	2	13350	16755	12620	10395	9135	12451	853	27855	4.30
Purdue University	BLRUP	1	6470	13275	10865	12730	13815	11431	853	27855	3.92
Ryerson University	RYEUN	1	16650	26930	20515	22580	25190	22373	853	27855	7.97
Southern Illinois University of Edwardsville	SIUEA	2	10130	13100	15570	19790	17255	15169	853	27855	5.30
Southern Illinois University of Edwardsville	SIUEJ	1	17115	18730	14200	13630	14470	15629	853	27855	5.47
Universidad Autonoma De Nuevo Leon	UANLA	1	25740	29035	29830	28770	25900	27855	853	27855	10.00
Universidad Autonoma De Nuevo Leon	UANLB	1						853	853	27855	0.00
Universidad Central Del Ecuador	UCECA	2	9975	20685	14145	13235	13585	14325	853	27855	4.99
Universidad Central Del Ecuador	UCEJC	2	15220	9220	9590	13125	16120	12655	853	27855	4.37
University of Arkansas	RZRBK	2	6810	13375	6670	8185	8775	8763	853	27855	2.93
University of Illinois at Urbana-Champaign	UIUCA	2	3835	4825	4830	4625	4865	4596	853	27855	1.39
University of Louisiana at Lafayette	ULLAF	2	4865	4025	3990	2815	4180	3975	853	27855	1.16
University of Manitoba	DHJLS	1	2270	2370	1455	1015	825	1587	853	27855	0.27
University of Manitoba	JLDTM	1	1275	930	750	655	655	853	853	27855	0.00
University of Minnesota Duluth	UOFMN	2	11450	21000	17530	20715	22980	18735	853	27855	6.62
University of Missouri -Kansas City	UMKCI	1	12495	13020	13000	13810	13120	13089	853	27855	4.53
University of Missouri Science and Technology	MSTAA	1	6130	12025	13900	13470	13180	11741	853	27855	4.03
University of Missouri Science and Technology	MSTBB	1	7550	8485	9895	10315	11085	9466	853	27855	3.19
University of Nevada, Reno	UNRRR	1	3030	5450	7485	10640	8210	6963	853	27855	2.26
University of Utah	UOFUT	2	4620	8940	12510	15815	19490	12275	853	27855	4.23