**Maximum Goal Differential =7**

RANK TEAM W L T GmPerf Sched Total Last 5

 1,Lindenwood,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10 0 1, 4.1, 9.1, 13.19, 11.96

 2,Minot State,\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 14 2 1, 2.8, 9.6, 12.41, 10.44

 3,Liberty,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 13 4 1, 2.6, 8.8, 11.36, 11.77

 4,Iowa State,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 16 3 3, 2.4, 8.8, 11.21, 10.39

 5,Adrian,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 13 4 1, 3.4, 7.8, 11.16, 10.72

 6,Nevada-Las Vegas,\_\_\_\_\_\_\_\_\_ 15 3 3, 1.6, 9.5, 11.10, 11.90

 7,Central Oklahoma,\_\_\_\_\_\_\_\_\_ 20 4 2, 2.5, 8.1, 10.63, 12.06

 8,Jamestown,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9 7 4, 0.7, 9.3, 9.91, 10.78

 9,Stony Brook,\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 15 4 3, 2.4, 7.5, 9.90, 9.81

 10,Maryville,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10 5 3, 1.6, 8.3, 9.88, 11.14

 11,Indiana Tech,\_\_\_\_\_\_\_\_\_\_\_\_\_ 18 3 1, 3.0, 6.9, 9.84, 8.82

 12,Missouri State,\_\_\_\_\_\_\_\_\_\_\_ 15 6 1, 1.2, 8.5, 9.73, 8.30

 13,Illinois,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 12 1, 0.2, 9.4, 9.54, 11.18

 14,Ohio,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 13 8 3, 1.5, 7.9, 9.35, 8.36

 15,Arizona,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10 7 3, 0.6, 8.7, 9.33, 9.90

 16,Michigan-Dearborn,\_\_\_\_\_\_\_\_ 13 6 3, 1.4, 7.9, 9.25, 10.75

 17,Aquinas,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 14 4 1, 2.0, 6.8, 8.80, 8.70

 18,Pittsburgh,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 14 3 2, 2.2, 6.5, 8.76, 8.91

 19,Utah,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 7 3, -0.4, 9.1, 8.62, 8.72

 20,Niagara,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 15 3 4, 2.7, 5.5, 8.14, 7.52

 21,Lawrence Tech,\_\_\_\_\_\_\_\_\_\_\_\_ 13 8 2, 1.5, 6.6, 8.11, 8.09

 22,Midland,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 11 9 2, 0.4, 7.7, 8.02, 8.48

 23,Arizona State,\_\_\_\_\_\_\_\_\_\_\_\_ 5 12 0, -1.5, 9.5, 7.99, 6.30

 24,Colorado,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 9 6, -0.8, 8.7, 7.88, 8.07

 25,Grand Canyon,\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 10 4, -1.7, 9.4, 7.71, 9.17

 26,Davenport,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 7 1, 0.8, 6.8, 7.66, 7.38

 27,Rhode Island,\_\_\_\_\_\_\_\_\_\_\_\_\_ 11 8 2, 0.6, 7.1, 7.63, 9.30

 28,Delaware,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9 8 7, 0.1, 7.3, 7.45, 7.62

 29,Oklahoma,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 12 3, -0.6, 8.0, 7.42, 8.55

 30,Illinois State,\_\_\_\_\_\_\_\_\_\_\_ 12 12 0, -0.1, 7.5, 7.40, 8.33

 31,Colorado State,\_\_\_\_\_\_\_\_\_\_\_ 1 13 4, -2.0, 9.2, 7.24, 7.33

 32,Robert Morris,\_\_\_\_\_\_\_\_\_\_\_\_ 13 4 6, 1.2, 5.5, 6.70, 8.24

 33,Grand Valley State,\_\_\_\_\_\_\_ 10 13 2, -0.3, 6.7, 6.44, 7.51

 34,Alabama,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 9 2, -1.1, 7.5, 6.42, 5.86

 35,New York,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 8 6 4, 0.2, 6.2, 6.40, 5.46

 36,Oswego State,\_\_\_\_\_\_\_\_\_\_\_\_\_ 8 5 4, 0.6, 5.7, 6.40, 4.62

 37,Drexel,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 7 6, -0.9, 7.2, 6.36, 6.29

 38,Navy,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 8 4, -0.2, 6.3, 6.15, 6.69

 39,Indiana Pennsylvania,\_\_\_\_\_ 13 7 3, 0.3, 5.7, 6.06, 6.61

 40,Waldorf,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 13 1, -1.8, 7.8, 6.00, 5.35

 41,John Carroll,\_\_\_\_\_\_\_\_\_\_\_\_\_ 14 5 2, 1.0, 4.9, 5.88, 5.67

 42,Villanova,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 5 3, 0.3, 5.5, 5.80, 3.80

 43,William Paterson,\_\_\_\_\_\_\_\_\_ 9 4 1, 0.9, 4.8, 5.78, 5.74

 44,Kent State,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 9 2, 0.7, 5.1, 5.77, 6.09

 45,Calvin,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 5 2, 0.6, 5.0, 5.69, 5.30

 46,Concordia Ann Arbor,\_\_\_\_\_\_ 5 12 2, -1.4, 7.0, 5.61, 5.45

 47,West Chester,\_\_\_\_\_\_\_\_\_\_\_\_\_ 11 4 2, 0.8, 4.4, 5.26, 5.29

 48,Buffalo,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 11 9 4, -0.4, 5.6, 5.20, 4.23

 49,Cleary,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 14 1, -2.4, 7.3, 4.84, 5.79

 50,Toledo,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 7 1, -0.1, 4.9, 4.80, 6.79

 51,Roosevelt,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 18 1, -3.3, 8.0, 4.75, 4.97

 52,McKendree,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 13 1, -3.3, 8.0, 4.66, 4.87

 53,Lehigh,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 9 2, -0.6, 5.2, 4.62, 4.15

 54,Rutgers,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 9 1, -1.1, 5.6, 4.56, 5.09

 55,Temple,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 7 2, -0.6, 4.9, 4.27, 4.72

 56,Northern Illinois,\_\_\_\_\_\_\_\_ 3 14 1, -2.4, 6.5, 4.08, 3.86

 57,Western Michigan,\_\_\_\_\_\_\_\_\_ 5 16 2, -1.9, 5.9, 4.07, 3.87

 58,West Virginia,\_\_\_\_\_\_\_\_\_\_\_\_ 7 16 2, -2.1, 5.9, 3.79, 2.66

 59,Syracuse,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 15 1, -3.7, 7.5, 3.78, 3.09

 60,Canisius,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 15 4, -2.0, 5.7, 3.71, 3.37

 61,George Mason,\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 9 2, -1.9, 5.4, 3.45, 3.85

 62,Towson,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 10 0, -1.5, 4.9, 3.38, 3.62

 63,Mercyhurst,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 15 3, -2.6, 5.8, 3.17, 1.41

 64,Duquesne,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 12 4, -1.8, 4.9, 3.07, 1.88

 65,Rochester Inst of Tech,\_\_\_ 0 4 2, -2.7, 5.7, 3.02, 2.99

 66,Rochester,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 14 0, -4.2, 6.8, 2.67, 2.32

 67,Oakland,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 8 1, -4.1, 5.6, 1.45, 1.11

 68,Eastern Michigan,\_\_\_\_\_\_\_\_\_ 0 13 1, -4.4, 5.4, 1.01, 1.99

**Maximum Goal Differential = 1 (i.e. just considers W, L, T and schedule strength)**

**RANK TEAM W L T GmPerf Sched Total Last 5**

 **1,Lindenwood,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10 0 1, 0.9, 7.4, 8.33, 8.07**

 **2,Minot State,\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 14 2 1, 0.7, 7.5, 8.21, 8.01**

 **3,Nevada-Las Vegas,\_\_\_\_\_\_\_\_\_ 15 3 3, 0.6, 7.5, 8.07, 8.08**

 **4,Liberty,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 13 4 1, 0.5, 7.4, 7.91, 7.74**

 **5,Iowa State,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 16 3 3, 0.6, 7.3, 7.91, 7.57**

 **6,Central Oklahoma,\_\_\_\_\_\_\_\_\_ 20 4 2, 0.6, 7.1, 7.76, 8.02**

 **7,Adrian,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 13 4 1, 0.5, 7.1, 7.65, 7.65**

 **8,Missouri State,\_\_\_\_\_\_\_\_\_\_\_ 15 6 1, 0.4, 7.2, 7.63, 7.09**

 **9,Stony Brook,\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 15 4 3, 0.5, 7.1, 7.60, 7.86**

 **10,Pittsburgh,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 14 3 2, 0.6, 7.0, 7.56, 7.67**

 **11,Jamestown,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9 7 4, 0.1, 7.4, 7.52, 7.47**

 **12,Illinois,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 12 1, 0.0, 7.5, 7.51, 8.29**

 **13,Maryville,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10 5 3, 0.3, 7.2, 7.51, 7.61**

 **14,Indiana Tech,\_\_\_\_\_\_\_\_\_\_\_\_\_ 18 3 1, 0.7, 6.8, 7.50, 7.18**

 **15,Arizona,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 10 7 3, 0.1, 7.3, 7.47, 7.55**

 **16,Ohio,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 13 8 3, 0.2, 7.2, 7.41, 7.24**

 **17,Michigan-Dearborn,\_\_\_\_\_\_\_\_ 13 6 3, 0.3, 7.1, 7.38, 7.91**

 **18,Utah,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 7 3, -0.1, 7.4, 7.36, 7.49**

 **19,Aquinas,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 14 4 1, 0.5, 6.8, 7.32, 7.48**

 **20,Niagara,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 15 3 4, 0.5, 6.7, 7.25, 7.13**

 **21,Rhode Island,\_\_\_\_\_\_\_\_\_\_\_\_\_ 11 8 2, 0.1, 7.1, 7.21, 7.61**

 **22,Robert Morris,\_\_\_\_\_\_\_\_\_\_\_\_ 13 4 6, 0.4, 6.8, 7.17, 7.43**

 **23,Delaware,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9 8 7, 0.0, 7.1, 7.16, 7.03**

 **24,Midland,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 11 9 2, 0.1, 7.1, 7.15, 7.25**

 **25,Davenport,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 7 1, 0.3, 6.9, 7.13, 7.39**

 **26,Arizona State,\_\_\_\_\_\_\_\_\_\_\_\_ 5 12 0, -0.4, 7.5, 7.13, 6.66**

 **27,Indiana Pennsylvania,\_\_\_\_\_ 13 7 3, 0.3, 6.8, 7.10, 7.24**

 **28,Lawrence Tech,\_\_\_\_\_\_\_\_\_\_\_\_ 13 8 2, 0.2, 6.9, 7.09, 6.80**

 **29,Grand Canyon,\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 10 4, -0.4, 7.5, 7.09, 7.27**

 **30,John Carroll,\_\_\_\_\_\_\_\_\_\_\_\_\_ 14 5 2, 0.4, 6.6, 7.04, 7.05**

 **31,Illinois State,\_\_\_\_\_\_\_\_\_\_\_ 12 12 0, 0.0, 7.0, 7.03, 7.05**

 **32,Oswego State,\_\_\_\_\_\_\_\_\_\_\_\_\_ 8 5 4, 0.2, 6.8, 7.00, 6.46**

 **33,New York,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 8 6 4, 0.1, 6.9, 6.99, 6.62**

 **34,Colorado,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 9 6, -0.3, 7.2, 6.99, 7.10**

 **35,Drexel,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 7 6, -0.1, 7.1, 6.96, 7.32**

 **36,William Paterson,\_\_\_\_\_\_\_\_\_ 9 4 1, 0.4, 6.6, 6.96, 6.79**

 **37,West Chester,\_\_\_\_\_\_\_\_\_\_\_\_\_ 11 4 2, 0.4, 6.5, 6.95, 7.01**

 **38,Villanova,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 5 3, 0.1, 6.8, 6.91, 6.58**

 **39,Buffalo,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 11 9 4, 0.1, 6.8, 6.85, 6.79**

 **40,Navy,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 8 4, -0.2, 7.0, 6.80, 6.87**

 **41,Oklahoma,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 12 3, -0.3, 7.2, 6.80, 7.17**

 **42,Alabama,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 9 2, -0.3, 7.0, 6.79, 6.39**

 **43,Kent State,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 9 2, 0.1, 6.7, 6.78, 6.86**

 **44,Colorado State,\_\_\_\_\_\_\_\_\_\_\_ 1 13 4, -0.7, 7.4, 6.73, 6.65**

 **45,Grand Valley State,\_\_\_\_\_\_\_ 10 13 2, -0.1, 6.8, 6.71, 6.82**

 **46,Calvin,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 5 2, 0.1, 6.5, 6.63, 6.62**

 **47,Waldorf,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 13 1, -0.5, 7.1, 6.57, 6.57**

 **48,Temple,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 7 2, -0.1, 6.6, 6.56, 6.78**

 **49,Concordia Ann Arbor,\_\_\_\_\_\_ 5 12 2, -0.4, 6.9, 6.52, 6.46**

 **50,West Virginia,\_\_\_\_\_\_\_\_\_\_\_\_ 7 16 2, -0.4, 6.9, 6.50, 6.21**

 **51,Roosevelt,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 18 1, -0.7, 7.2, 6.50, 6.15**

 **52,McKendree,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 13 1, -0.7, 7.1, 6.44, 6.41**

 **53,Towson,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 10 0, -0.3, 6.7, 6.44, 6.49**

 **54,Toledo,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 7 1, -0.2, 6.6, 6.42, 6.92**

 **55,Canisius,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 15 4, -0.5, 6.9, 6.39, 6.44**

 **56,George Mason,\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 9 2, -0.4, 6.8, 6.37, 6.57**

 **57,Cleary,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 14 1, -0.6, 7.0, 6.36, 6.31**

 **58,Duquesne,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 12 4, -0.4, 6.7, 6.29, 5.88**

 **59,Rutgers,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 9 1, -0.6, 6.9, 6.28, 6.23**

 **60,Syracuse,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 15 1, -0.9, 7.2, 6.27, 6.02**

 **61,Lehigh,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 9 2, -0.5, 6.8, 6.26, 6.11**

 **62,Northern Illinois,\_\_\_\_\_\_\_\_ 3 14 1, -0.6, 6.8, 6.23, 6.64**

 **63,Western Michigan,\_\_\_\_\_\_\_\_\_ 5 16 2, -0.5, 6.7, 6.21, 6.15**

 **64,Rochester Inst of Tech,\_\_\_ 0 4 2, -0.7, 6.8, 6.16, 6.14**

 **65,Mercyhurst,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 15 3, -0.7, 6.9, 6.16, 5.87**

 **66,Rochester,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 14 0, -0.8, 6.9, 6.03, 6.27**

 **67,Oakland,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 8 1, -0.9, 6.7, 5.83, 5.82**

 **68,Eastern Michigan,\_\_\_\_\_\_\_\_\_ 0 13 1, -0.9, 6.6, 5.70, 5.63**

 **The program starts all teams with an equal arbitrary value and then**

**adjusts them all recursively based on game scores until the lowest cumulative**

**error between expected goal differentials and actual goal differentials is**

**reached (convergence). One effect often noticed is that a team's rating can**

**change slightly without playing due to previous opponents playing which affects**

**their rating and their opponent's rating, etc.**

 **The Total column is in goal units and the difference in this value between**

**any two teams is the predicted goal differential for a game played at a**

**neutral site between those two teams.**

 **It should be noted that these rankings are an average performance value**

**for each team for the entire season, all games are equally weighted, so a team's**

**latest game may make up only 1/40th of a teams rating at the end of the season.**

 **Actually, there are two different rankings listed below. The first is as described**

**above with the maximum goal differential used per game set at 7.**

 **This ordering ends up similar to** [**CCHP**](https://www.google.com/url?q=http://rpihockey.net/misc.rank1.shtml&source=gmail-html&ust=1642792748580000&usg=AOvVaw2vxbJfelc4JMZK8OzU0fGG)**, although differences do arise due to CCHP**

**considering home ice advantage and CCHP not using a goal differential limit.**

 **The second ranking sets maximum goal differential at 1, thereby just considering**

**whether the game was won, lost, or tied (and strength of opponent). Note that the Total column**

**in the GD=1 ranking is therefore in win percentage units rather than goal units. A rated .01**

**ahead of B can be interpreted as saying that if these two teams played exclusively against**

**each other, A's predicted winning percentage is 1 percentage point higher than B's**

**(i.e. A's predicted winning percentage vs. B would be .495, B's against**

**A would be .505). However, since the teams do not play exclusively against the other it**

**is actually a little bit more complex than above as teams can be ranked as high as 1.0**

**above their average opponent (if they were undefeated and untied) and as low as 1.0**

**below their average opponent (if they lost all of their games).**

**Not surprisingly, the ordering ends up very similar to** [**KRACH**](https://www.google.com/url?q=http://rpihockey.net/misc.rank1.shtml&source=gmail-html&ust=1642792748580000&usg=AOvVaw2vxbJfelc4JMZK8OzU0fGG)**.**

 **Currently, teams with as few as 3 scores are ranked. The more games that go**

**into a team's ranking, the more accurate their ranking will be.**