**Maximum Goal Differential = 6**

**RANK TEAM W L T OTW OTL GmPerf Sched OTAdj Total Last 5**

 **1,Liberty University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 1 0 1 1, 2.5, 8.6, 0.00 11.11, 11.33**

 **2,Adrian College,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 1 0 0 0, 3.9, 7.1, 0.00 10.97, 11.32**

 **3,Midland University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 0 0 0 0, 3.4, 7.5, 0.00 10.96, 10.51**

 **4,Maryville University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 8 4 0 0 0, 1.7, 7.9, 0.00 9.60, 9.60**

 **5,Indiana Tech,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9 1 0 2 0, 3.2, 6.2, -0.10 9.29, 9.64**

 **6,University of Michigan,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 0 0 0 0, 2.5, 6.6, 0.00 9.15, 9.27**

 **7,McKendree University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 3 0 0 0, 1.3, 7.7, 0.00 8.99, 9.37**

 **8,University of Jamestown,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 1 0 0 0, 1.7, 7.1, 0.00 8.81, 9.29**

 **9,Minot State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 6 0 2 0, -1.0, 9.9, -0.10 8.78, 8.90**

 **10,Arizona State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 1 0 0 0, 2.6, 5.9, 0.00 8.52, 8.96**

 **11,University of Minnesota,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 2 0 0 0, 1.2, 7.3, 0.00 8.51**

 **12,University of Michigan-Dearborn,\_\_\_\_\_\_\_\_\_\_ 5 3 0 0 0, 0.5, 7.7, 0.00 8.18, 8.63**

 **13,University of Massachusetts-Amherst,\_\_\_\_\_\_ 1 5 0 0 1, -1.7, 9.6, 0.08 8.06, 8.40**

 **14,Grand Valley State University,\_\_\_\_\_\_\_\_\_\_\_\_ 3 2 0 0 0, 0.2, 7.4, 0.00 7.64, 7.64**

 **15,Lake Superior State University,\_\_\_\_\_\_\_\_\_\_\_ 2 7 0 0 1, -0.7, 7.6, 0.06 7.01, 7.66**

 **16,Niagara University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 5 0 1 1, -1.0, 7.9, 0.00 6.93, 6.42**

 **17,Penn State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 3 0 0 0, -0.5, 7.3, 0.00 6.85, 6.44**

 **18,Lindenwood University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 6 0 0 0, -4.2, 10.3, 0.00 6.14, 6.37**

 **19,University of Rhode Island,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 3 0 0 0, -2.3, 8.2, 0.00 5.89**

 **20,Michigan State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 4 1 0 1, -0.8, 6.5, 0.06 5.77, 5.74**

 **21,Concordia University-Ann Arbor,\_\_\_\_\_\_\_\_\_\_\_ 1 7 0 0 0, -2.7, 8.5, 0.00 5.71, 6.40**

 **22,Miami University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 5 0 0 1, -2.8, 8.4, 0.10 5.71, 5.61**

 **23,Grand Canyon University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 6 0 0 0, -3.3, 8.6, 0.00 5.34, 5.40**

 **24,University of Utah,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 3 0 1 0, 0.6, 4.6, -0.06 5.14, 4.69**

 **25,University of Colorado,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 7 0 0 0, -2.2, 6.9, 0.00 4.70, 4.92**

 **26,Colorado State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 5 1 0 1, 0.2, 3.9, 0.06 4.14, 4.11**

 **27,University of Denver,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 3 0 0 0, 0.3, 3.2, 0.00 3.56, 2.68**

 **28,Aquinas College,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 3 0 0 0, -2.0, 5.0, 0.00 3.05**

 **29,Davenport University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 5 0 0 0, -4.0, 6.5, 0.00 2.46, 2.28**

 **30,Montana State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 5 0 0 0, -2.0, 2.4, 0.00 0.39, 0.46**

 **31,University of Wyoming,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 4 0 0 0, -5.0, 2.2, 0.00 -2.76**

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

 **RANK TEAM W L T OTW OTL GmPerf Sched OTAdj Total Last 5**

 **1,Midland University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 12 0 0 0 0, 1.0, 7.1, 0.00 8.09, 8.16**

 **2,Liberty University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 1 0 1 1, 0.7, 7.3, 0.00 7.98, 7.86**

 **3,University of Michigan,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 0 0 0 0, 1.0, 6.8, 0.00 7.82, 7.90**

 **4,Adrian College,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 1 0 0 0, 0.8, 7.1, 0.00 7.80, 8.04**

 **5,University of Jamestown,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6 1 0 0 0, 0.7, 7.0, 0.00 7.71, 7.83**

 **6,Maryville University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 8 4 0 0 0, 0.3, 7.2, 0.00 7.57, 7.61**

 **7,McKendree University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 3 0 0 0, 0.4, 7.1, 0.00 7.53, 7.79**

 **8,Arizona State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 7 1 0 0 0, 0.8, 6.7, 0.00 7.49, 7.42**

 **9,Indiana Tech,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 9 1 0 2 0, 0.8, 6.8, -0.10 7.47, 7.58**

 **10,Grand Valley State University,\_\_\_\_\_\_\_\_\_\_\_\_ 3 2 0 0 0, 0.2, 7.2, 0.00 7.41, 7.41**

 **11,Minot State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 6 0 2 0, -0.2, 7.6, -0.10 7.34, 7.27**

 **12,University of Michigan-Dearborn,\_\_\_\_\_\_\_\_\_\_ 5 3 0 0 0, 0.3, 7.0, 0.00 7.29, 7.53**

 **13,University of Minnesota,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 2 0 0 0, 0.0, 7.1, 0.00 7.13**

 **14,University of Massachusetts-Amherst,\_\_\_\_\_\_ 1 5 0 0 1, -0.7, 7.6, 0.08 7.05, 7.19**

 **15,Penn State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 3 0 0 0, 0.0, 6.8, 0.00 6.84, 6.63**

 **16,Lake Superior State University,\_\_\_\_\_\_\_\_\_\_\_ 2 7 0 0 1, -0.6, 7.3, 0.06 6.81, 6.76**

 **17,Lindenwood University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 6 0 0 0, -1.0, 7.8, 0.00 6.81, 6.81**

 **18,Michigan State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 4 1 0 1, -0.1, 6.9, 0.06 6.79, 6.71**

 **19,Grand Canyon University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 6 0 0 0, -0.7, 7.5, 0.00 6.78, 6.85**

 **20,Niagara University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 5 0 1 1, -0.4, 7.1, 0.00 6.71, 6.46**

 **21,University of Utah,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5 3 0 1 0, 0.3, 6.5, -0.06 6.67, 6.88**

 **22,Concordia University-Ann Arbor,\_\_\_\_\_\_\_\_\_\_\_ 1 7 0 0 0, -0.8, 7.3, 0.00 6.55, 6.66**

 **23,University of Colorado,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 7 0 0 0, -0.6, 7.1, 0.00 6.54, 6.63**

 **24,Miami University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 5 0 0 1, -1.0, 7.2, 0.10 6.31, 6.21**

 **25,Aquinas College,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 3 0 0 0, -0.5, 6.8, 0.00 6.31**

 **26,University of Rhode Island,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 3 0 0 0, -1.0, 7.3, 0.00 6.25**

 **27,Davenport University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 5 0 0 0, -0.7, 6.9, 0.00 6.21, 6.14**

 **28,Colorado State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 5 1 0 1, -0.2, 6.3, 0.06 6.17, 6.03**

 **29,University of Denver,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3 3 0 0 0, 0.0, 6.1, 0.00 6.10, 5.92**

 **30,Montana State University,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2 5 0 0 0, -0.4, 6.0, 0.00 5.55, 5.48**

 **31,University of Wyoming,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 0 4 0 0 0, -1.0, 5.8, 0.00 4.84**

 **- \* in place of rank indicates team whose rank is based on fewer than 3 scores.**

 **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.**

 **Games that go to shootouts for decision are considered ties for ratings purposes.**

 **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**](http://www.uafhockey.com/hratings.html)**, 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**](http://rpihockey.net/misc.rank1.shtml)**.**

 **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.**