

# The USCF Elo Rating System

*By Steven Craig Miller*

The United States Chess Federation's Elo rating system assigns to every tournament chess player a numerical rating based on his or her past performance in USCF rated tournaments. A rating is a number between 0 and 3000, which estimates the player's chess ability. The Elo system took the number 2000 as the upper level for the strong amateur or club player and arranged the other categories above and below, as shown in the table below.

2600	World Championship Contenders
2400	Most Grandmasters & International Masters
2200	Most National Masters
2000	Candidate Masters / "Experts"
1800	Amateurs Class A / Category 1
1600	Amateurs Class B / Category 2
1400	Amateurs Class C / Category 3
1200	Amateurs Class D / Category 4
1000	Novices Class E / Category 5
800	Novices Class F / Category 6
600	Novices Class G / Category 7
400	Novices Class H / Category 8
200	Novices Class I / Category 9
	Novices Class J / Category 10

Mr. Miller's USCF rating is slightly above 2000. He will need to increase his rating by 200 points (or so) if he is to ever reach the level of chess "master." Nonetheless, his meager 2000 rating puts him in the top 6% of adult USCF members.

In the year 2002, the average rating for adult USCF members was 1429 (the average adult rating usually fluctuates somewhere around 1500). The average rating for scholastic USCF members was 608.

Most USCF scholastic chess players will have a rating between 100 and 1200, although it is not uncommon for a few of the better players to have even higher ratings.

Ratings can be *provisional* or *established*. Until you have completed 25 tournament games, your rating is called *provisional*, and is not considered to be completely reliable. After 25 games, your rating is *established*

and is considered fairly reliable. Established ratings will change (up and down) with each tournament, but are unlikely to fluctuate more than 100 points unless your playing ability changes significantly.

Suffice it to say that when you win, your rating goes up, and when you lose, it goes down. But your rating will go up faster when you beat someone with a higher rating, and slower when you beat someone with a lower rating. Conversely, your rating will go down slower when you lose to someone with a higher rating, and faster when you lose to someone with a lower rating.

RD	Higher	Lower
0	0.500	0.500
50	0.571	0.429
100	0.640	0.360
150	0.703	0.297
200	0.760	0.240
250	0.808	0.192
300	0.849	0.151
350	0.882	0.118
400	0.909	0.091
450	0.930	0.070
500	0.947	0.053
550	0.960	0.040
600	0.969	0.031
650	0.977	0.023
700	0.983	0.017
750	0.987	0.013
800	0.990	0.010

Ratings can give us some idea concerning future performance. The table to the left is a percentage expectancy table, which allows one to convert the Elo rating system into scoring or winning probabilities. The first column is the *rating difference*, the second column is the winning percentage expectancy for the higher rated player, and the third column is the winning percentage expectancy for the lower rated player.

If a player is rated 100 points more than another, then the higher rated player is expected to win (roughly) six out of ten games they play together (or 64%). But the lower rated player is still expected to win 36% of the time.

If a player is rated 200 points more than another, then the higher rated player is expected to win (roughly) three out of four games they play together.

If a player is rated 400 points more than another, then the higher rated player is expected to win nine out of ten games they play together (or 90%).

Many chess players complain that our rating system is askew and that this is the real cause for their low rating. Professor Elo commented on this “sour grapes” attitude in his work: *The Rating of Chess players: Past and Present* (1978):

Few chessplayers are totally objective about their positions on the board, and even fewer can be objective about their personal capacities and ratings. Most of them believe they are playing “in form” only when far above normal form, and they tend to forget that an outstanding tournament success is just as likely the result of off performances by opponents as superior play by themselves. There is truth in the paradox that “every chessplayer believes himself [or herself] better than his [or her] equal” (49).

One should not be overly concerned about one’s rating. At best, it is only an approximation of one’s chess strength within a range of plus or minus a hundred points (two hundred points is a “class”). Most students should ignore their rating and that of their opponent, and just play as much chess as they can. Players who start worrying more about their rating than about learning usually don’t improve nearly as fast as those who concentrate on learning. One will never become a better chess player by attempting to “protect” one’s rating by playing only certain players. One can only gain a higher rating by seeking out the stronger opponents and playing and learning as much as one can. One of the best ways to improve in chess is by playing in chess tournaments.