- Tuesday 5 October:
  - **Look at your WA03 results thoroughly! Where did you lose marks?**
- Tuesday 5 October:
  - Complete reading Chapter 5 of the course notes. **Pages 82-93.**
- **Wednesday 6 October:**
  - **Submit Written Assignment 4: WA4**
- Wednesday 6 October:
  - Mobius Quiz 11 (covers up to the end of Chapter 4.4, Strong Induction).
- Thursday 7 October:
  - Look at WA5 **!!!**
- Thursday 7 October:
  - WA04 solutions will be posted, hopefully before 12pm: Check the solutions in detail!
- Friday 1 October:
  - Mobius Quiz 12 (covers up to the end of Chapter 4.4, Strong Induction).
- Reading week:
  - Practice, practice, practice, practice, practice, practice, practice, practice, practice, practice, practice, practice, practice!
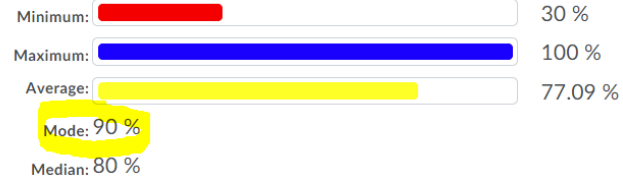
MATH 135: Lecture 12

Dr. Nike Dattani

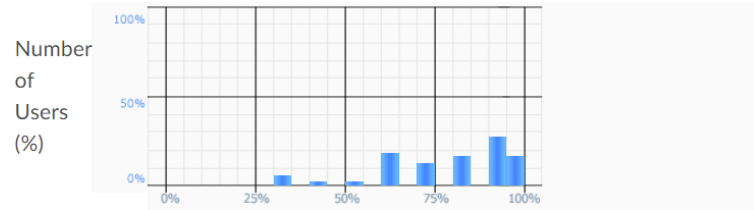4 October 2021

Nike's Section 19

View By: [Groups ▾] Groups: [1219-MATH.135.019.1.LEC ▾] [Apply]

MQ9 (Fri Oct 1) Class Statistics

Number of submitted grades: 55 / 56

Minimum:	▬▬▬	30 %
Maximum:	▬▬▬▬▬▬▬▬▬▬	100 %
Average:	▬▬▬▬▬▬▬	77.09 %
Mode:	90 %	
Median:	80 %	

Standard Deviation: 18.75 % ?

Grade Distribution

Nike's Section 16

View By: [Groups ▾] Groups: [1219-MATH.135.016.1.LEC ▾] [Apply]

MQ9 (Fri Oct 1) Class Statistics

Number of submitted grades: 48 / 50

Minimum:	▬	10 %
Maximum:	▬▬▬▬▬▬▬▬▬▬	100 %
Average:	▬▬▬▬▬▬▬	82.71 %
Mode:	100 %	
Median:	90 %	
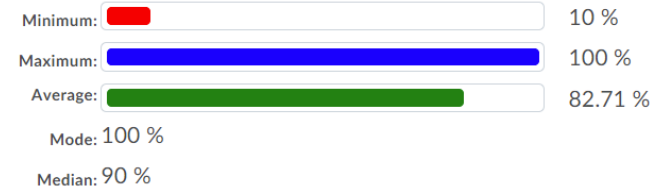
Standard Deviation: 20.69 % ?

Grade Distribution

Emma's Section 8

Number of submitted grades: 51 / 58

Minimum:	▬▬	20 %
Maximum:	▬▬▬▬▬▬▬▬▬▬	100 %
Average:	▬▬▬▬▬▬▬▬	86.86 %
Mode:	100 %	
Median:	90 %	

Standard Deviation: 15.4 % ?

Grade Distribution
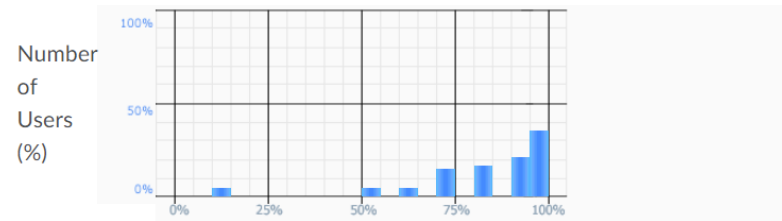
Entire MATH 135

Number of submitted grades: 1,172 / 1,261

Minimum:		0 %
Maximum:	▬▬▬▬▬▬▬▬▬▬	100 %
Average:	▬▬▬▬▬▬▬	74.11 %
Mode:	90 %	
Median:	80 %	
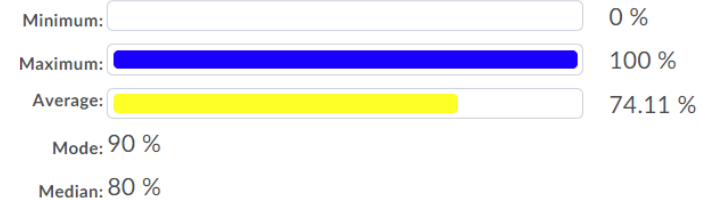
Standard Deviation: 21.99 % ?

Grade Distribution
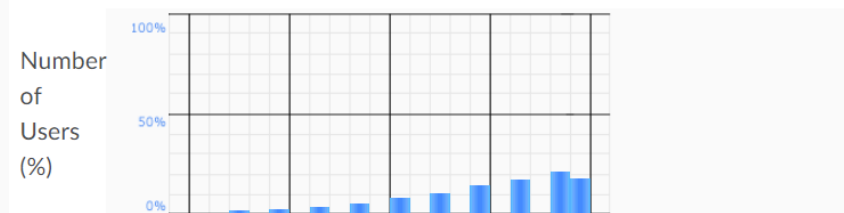
Game theory is the study of mathematical models of strategic interaction among rational decision-makers.[1] It has applications in all fields of social science, as well as in logic, systems science and computer science. Originally, it addressed zero-sum games, in which each participant's gains or losses are exactly balanced by those of the other participants. In the 21st century, game theory applies to a wide range of behavioral relations, and is now an umbrella term for the science of logical decision making in humans, animals, and computers.

Modern game theory began with the idea of mixed-strategy equilibria in two-person zero-sum games and its proof by John von Neumann. Von Neumann's original proof used the Brouwer fixed-point theorem on continuous mappings into compact convex sets, which became a standard method in game theory and mathematical economics. His paper was followed by the 1944 book *Theory of Games and Economic Behavior*, co-written with Oskar Morgenstern, which considered cooperative games of several players. The second edition of this book provided an axiomatic theory of expected utility, which allowed mathematical statisticians and economists to treat decision-making under uncertainty.

Game theory was developed extensively in the 1950s by many scholars. It was explicitly applied to evolution in the 1970s, although similar developments go back at least as far as the 1930s. Game theory has been widely recognized as an important tool in many fields. As of 2014, with the Nobel Memorial Prize in Economic Sciences going to game theorist Jean Tirole, eleven game theorists have won the economics Nobel Prize. John Maynard Smith was awarded the Crafoord Prize for his application of evolutionary game theory.
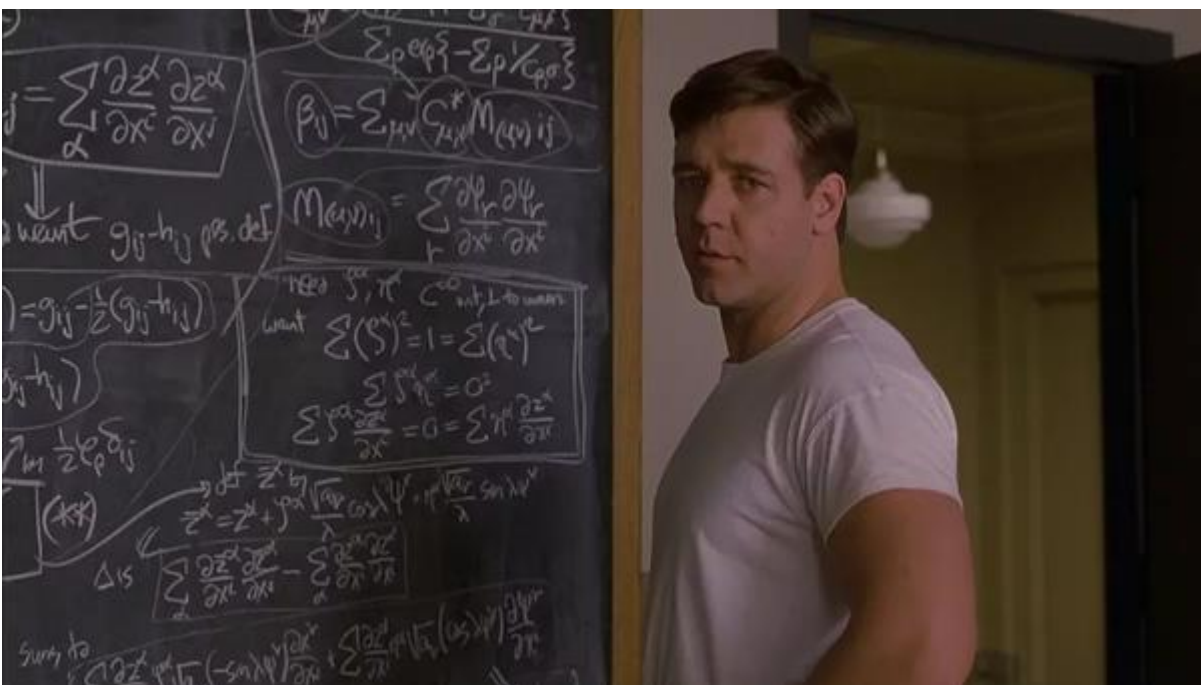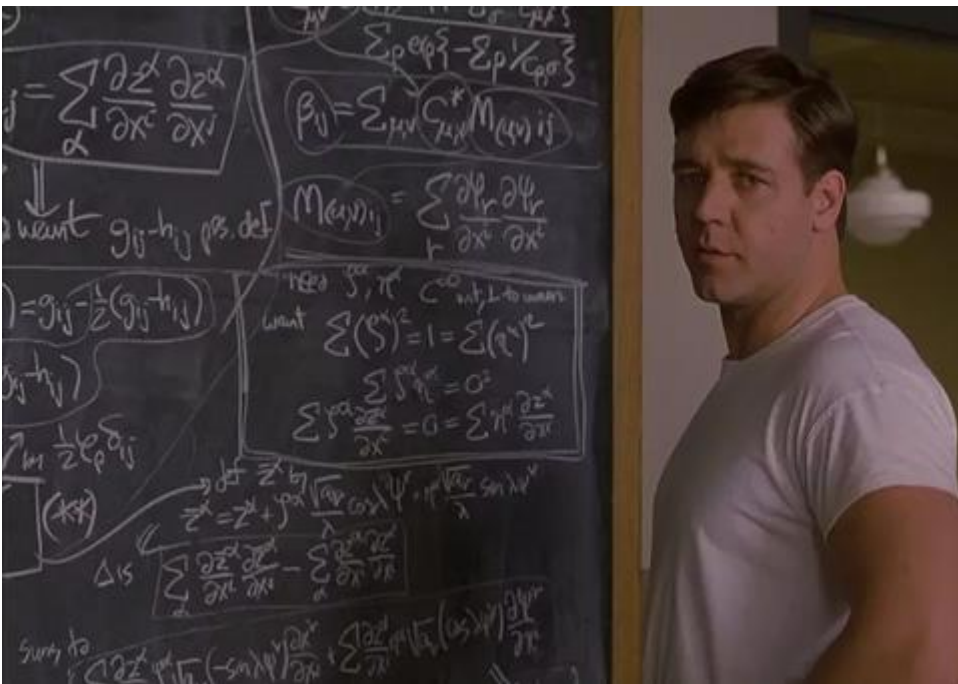
ACADEMY AWARDS 2001
4 Including
BEST PICTURE

RUSSELL
CROWE
A BEAUTIFUL
MIND
ED HARRIS

ラッセル
クロウ
ビューティフル
マインド

DVD
VIDEO

John Nash
1928 – 2015

Game theory courses at UW

CO 456: Introduction to Game Theory

CO 759: Algorithmic Game Theory

Required:
- CO 255: Introduction to Optimization
- MATH 235: Introduction to Combinatorics
- MATH 135

Study groups and carpooling

Does 0 | 0 ?

Yes

Does any integer other than 0 divide 0?

Yes! Which ones?
All

Does 0 divide anything?

Proof Practice!

- Is the sum of two consecutive integers odd?

- Let a, b in Z, where b = a+1
- Consider c = a + b = a + a + 1 = 2a + 1

Q4 of WA4