



UNIVERSITY OF  
SAN FRANCISCO

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Office of Assessment  
and Accreditation Support

## Quantitative Reasoning Core Graduation Competency Report 2022

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## General Information About the Assessment

### THE PROCESS

WSCUC requires that undergraduate programs ensure the development of core competencies including: written and oral communication, quantitative reasoning, information literacy, and critically thinking. USF routinely assesses each of these five core graduation competencies to determine how well USF is meeting our obligation to ensure graduate competencies in these areas.

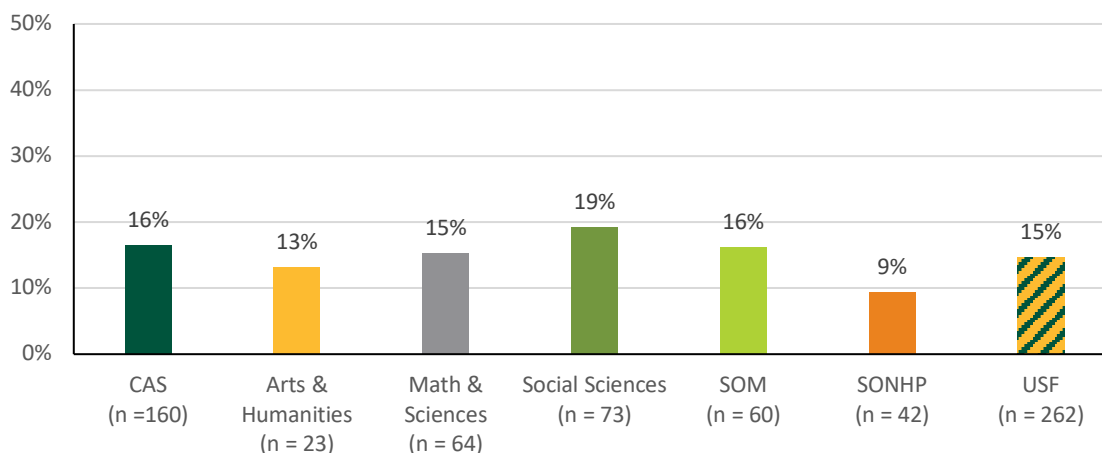
In fall of 2022, quantitative reasoning was assessed. All seniors expected to graduate in fall of 2022 or spring of 2023 were invited to participate in a 15-item Canvas quiz similar to that administered in 2017, 2018, and 2019.<sup>1</sup> The quiz measures graduating seniors' ability to define, describe, and apply basic statistical terminology, figures and tables, and the information communicated in them to real-world empirical questions. This quiz was developed by Math & Sciences faculty in the College of Arts and Sciences and piloted by the University Assessment Committee prior to its administration to students in 2017. This year an additional question was added to understand student's perception of their quantitative reasoning skills. Participation in the quiz was incentivized with a \$10 gift card.

### RESPONSE RATE

The target response rate was 10% of all graduating seniors. Once this target was reached the quiz was closed to all new participants. Those who had begun the quiz prior to its closing were allowed to complete the quiz. Two hundred sixty-two seniors expected to graduate in fall of 2022 or spring of 2023 completed the quiz, which is 15% of the 1791 graduating seniors invited to participate in spring 2022.

The figure below depicts the overall response rates.

- The average response rate across USF was **15%**, with the highest response rates from the Social Sciences area of the College of Arts & Sciences (**19%**) and the lowest response rates from the School of Nursing & Health Professions (**9%**).



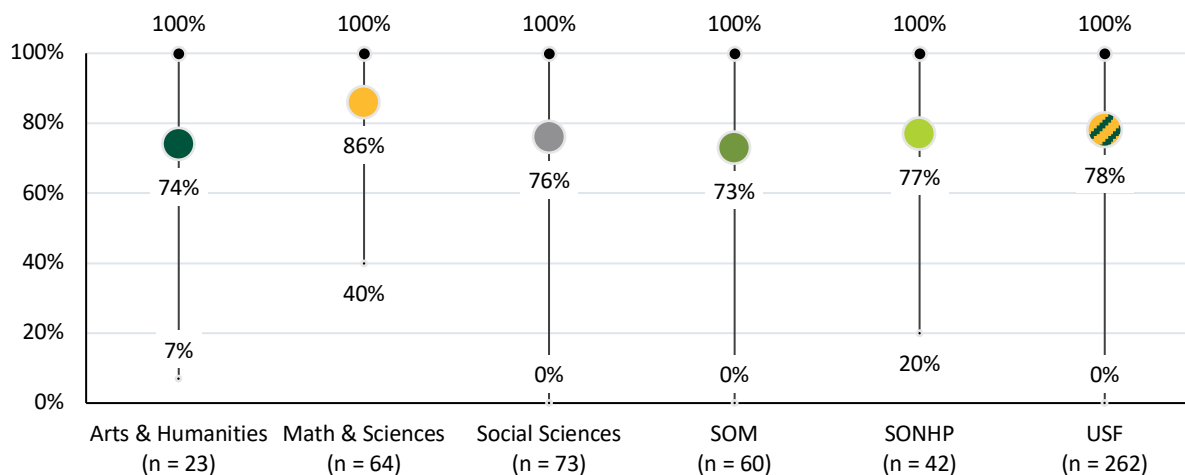
<sup>1</sup> Minor changes were made to some questions in order to make the quiz more relevant; however, each question continued to measure the same skills.

## How Did Students Perform?

### AVERAGE SCORES

The figure below depicts the average and range of scores broken down by the three school/college that graduate seniors. The College of Arts & Sciences is broken into three areas: Arts & Humanities, Math & Sciences, and Social Sciences.

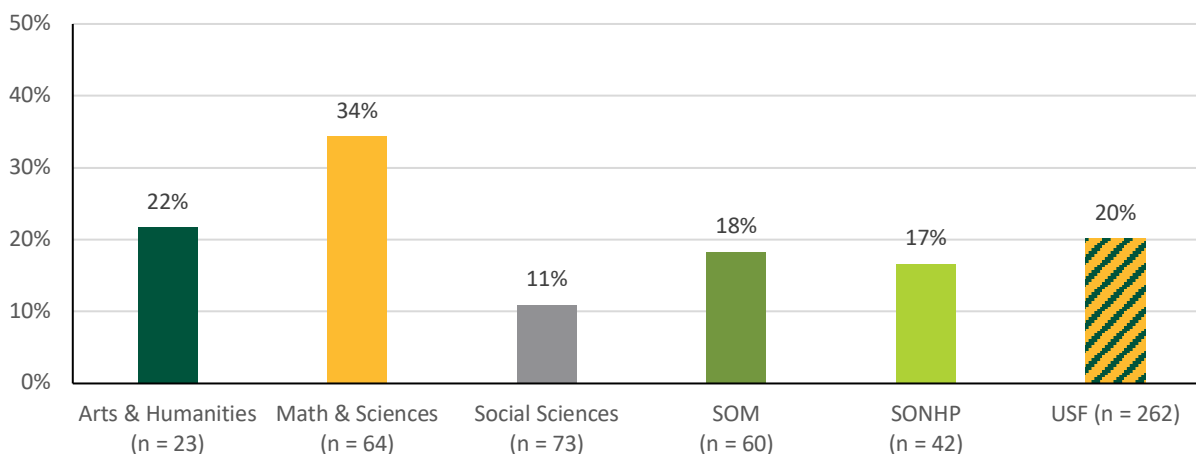
- The average score was **78%**, with students in the Math & Sciences area in the College of Arts and Sciences scoring the highest (**86%**) and students in the School of Management scoring the lowest (**73%**).



### SCORED 100%

The figure below depicts the proportion of students who received 100% on the quiz.

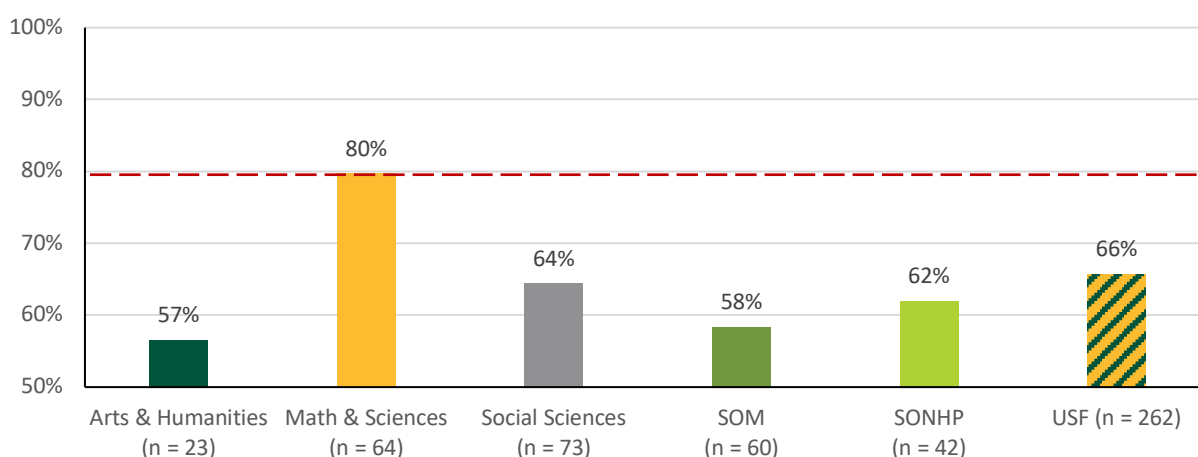
- Overall, **20%** of the students who participated in the quiz received a 100%, with Math & Sciences students scoring the highest proportion (**34%**) and Social Sciences students scoring the lowest proportion (**11%**).



## MEETING AND ACHIEVING STANDARDS

Before administering the quiz, we expected that 75% of graduating seniors would score an 80% or higher on the quiz. The figure below depicts the percentage of students who scored an 80% or higher.

- Only graduating seniors in Math & Sciences (80%) met and achieved this standard.

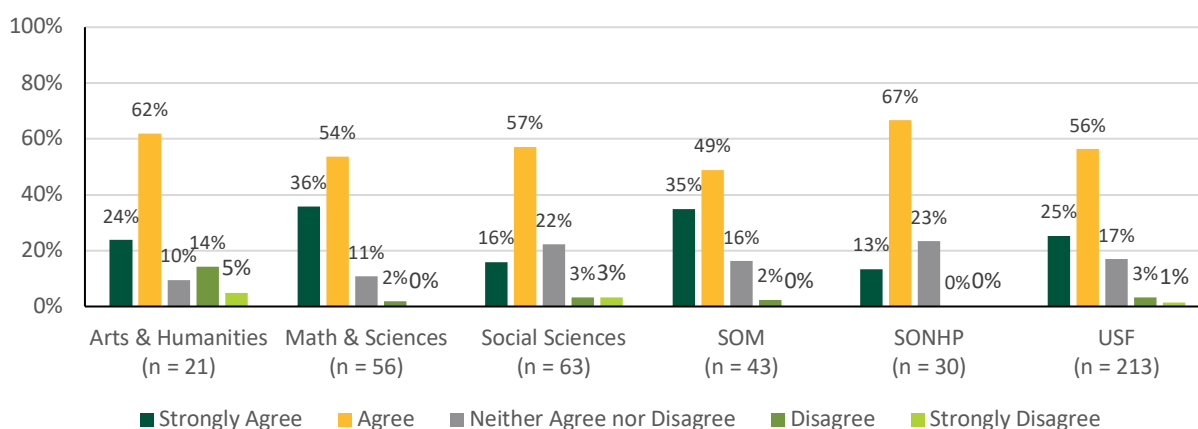


## Perception

New in 2022, the quiz included the following question as a means to understand students' self-perception: *I am confident in my ability to apply mathematical concepts to the interpretation and analysis of quantitative information in order to solve a wide range of problems, from those arising in pure and applied research to everyday issues and questions.* Students could select Strongly Agree, Agree, Neither Agree nor Disagree, Disagree, or Strongly Disagree.<sup>2</sup>

- The highest percentage of participants in the College of Arts & Sciences, School of Management, and School of Nursing & Health Professions indicated that they agreed with the statement.

The figure below depicts the percentage of participants who selected each response option.

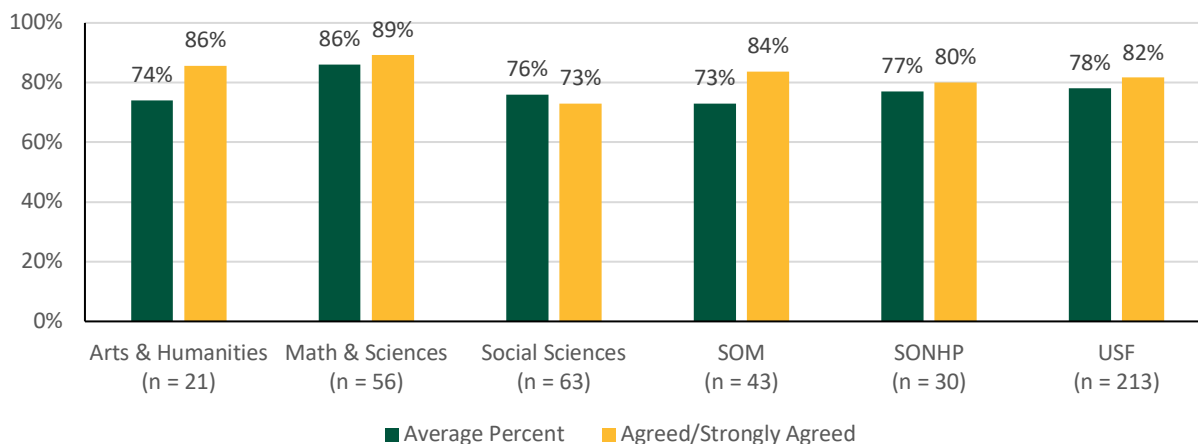


<sup>2</sup> Due to the nature of the quiz this question could not be limited to one response option; therefore, in some instances students selected multiple responses. Arts & Humanities: two students selected both *Neither agree nor disagree* and *Disagree* and one student selected both *Strongly Agree* and *Agree*. Math & Sciences: one student selected both *Neither agree nor disagree* and *Disagree*. Social Sciences: one student selected both *Agree* and *Neither agree nor disagree*. SOM: one student selected both *Agree* and *Neither agree nor disagree*. SONHP: one student selected both *Agree* and *Neither agree nor disagree*.

### COMPARISON OF PERCEPTION VS. AVERAGE SCORE

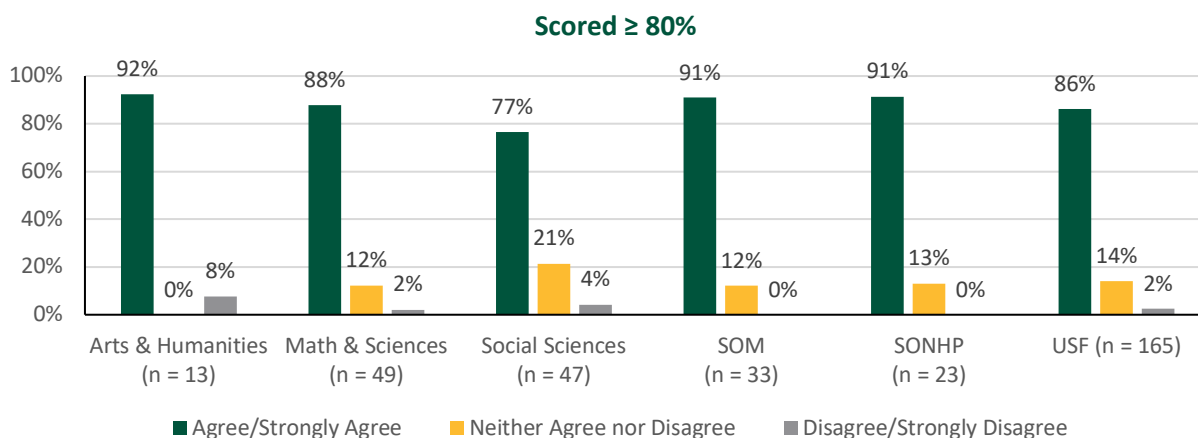
On average, student perception of performance in the area of quantitative reasoning was comparable to the average percentage scored.

The figure below depicts the average percentage scored compared to the percentage of participants who indicated they agreed or strongly agreed that they were confident in their ability.



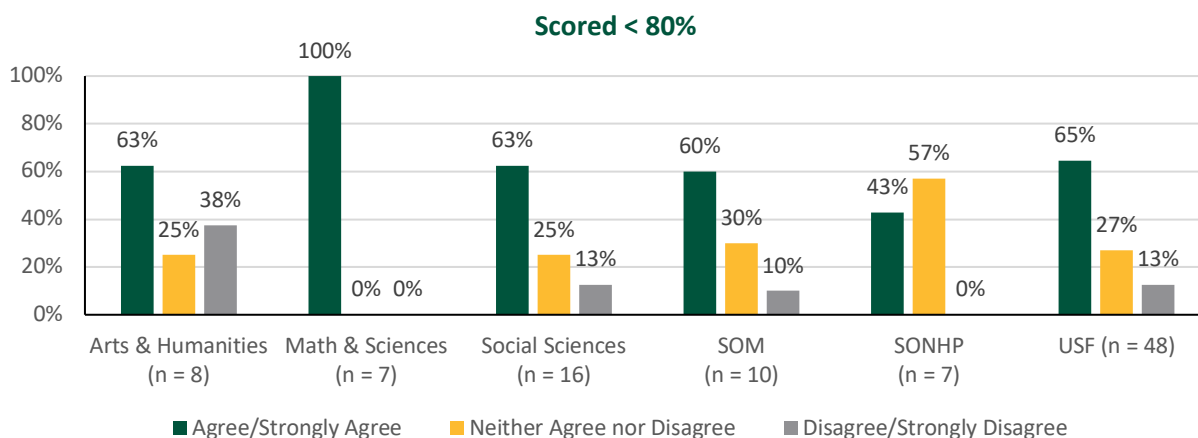
### COMPARISON OF PERCEPTION VS. MEETING AND ACHIEVING STANDARDS

The following figure depicts the percentage of students who scored 80% or higher on the quiz, responded to this question<sup>3</sup>, and agreed/strongly agreed, neither agreed nor disagreed, and disagreed/strongly disagreed that they were confident in their ability.



<sup>3</sup> 4% (n = 7) participants who scored ≥ 80% did not respond to this question.

The following figure depicts the percentage of students who scored less than 80% on the quiz, responded to this question<sup>4</sup>, and agreed/strongly agreed, neither agreed nor disagreed, and disagreed/strongly disagreed that they were confident in their ability.



<sup>4</sup> 47% (n = 42) of those who scored less than 80% did not respond to this question.