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# Standing Up for Ergonomics

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# Standing Up For Ergonomics

Erica Eggeman and Joeli Funderburke

WWU: College of Engineering and Design - Dr. Sura Al-Qudah

## Abstract

After long hours in the computer lab, students from the manufacturing engineering program began studying the ergonomic conditions of the high traffic computer labs. Researchers set out to determine how much time students were using the workstations provided and the impacts on students from using the workstations.

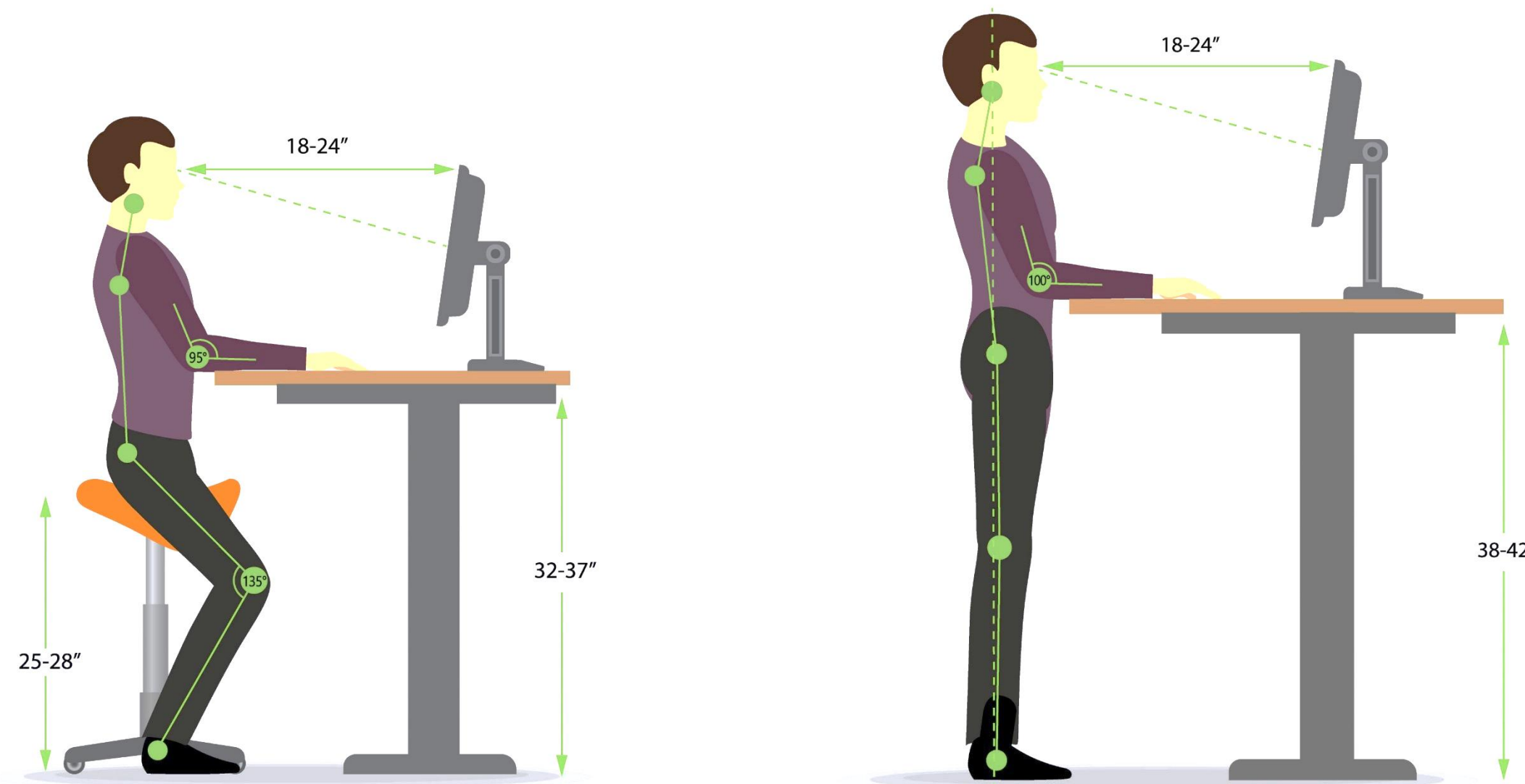
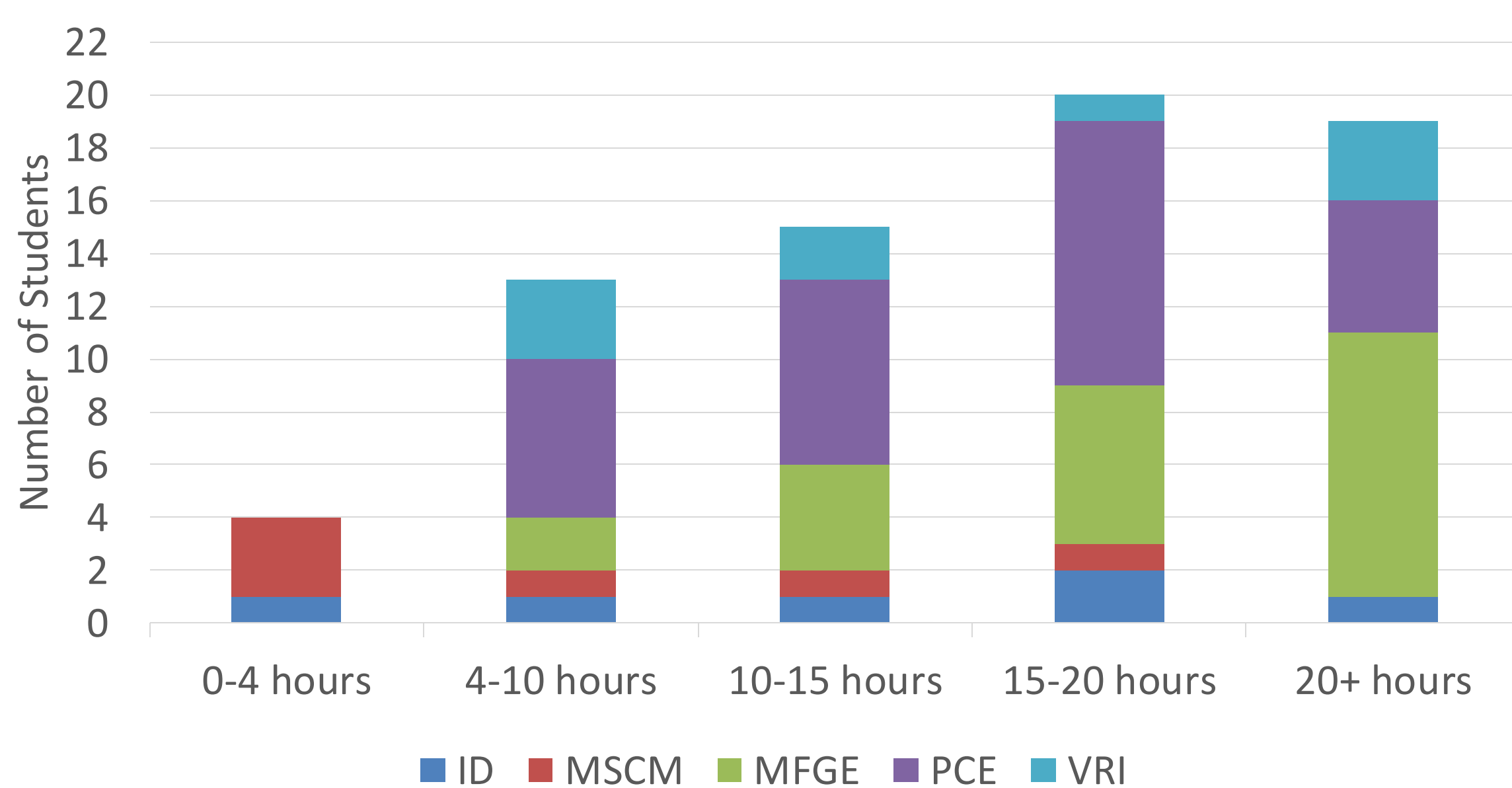


Illustration of ideal ergonomic positions for sitting and standing workstations

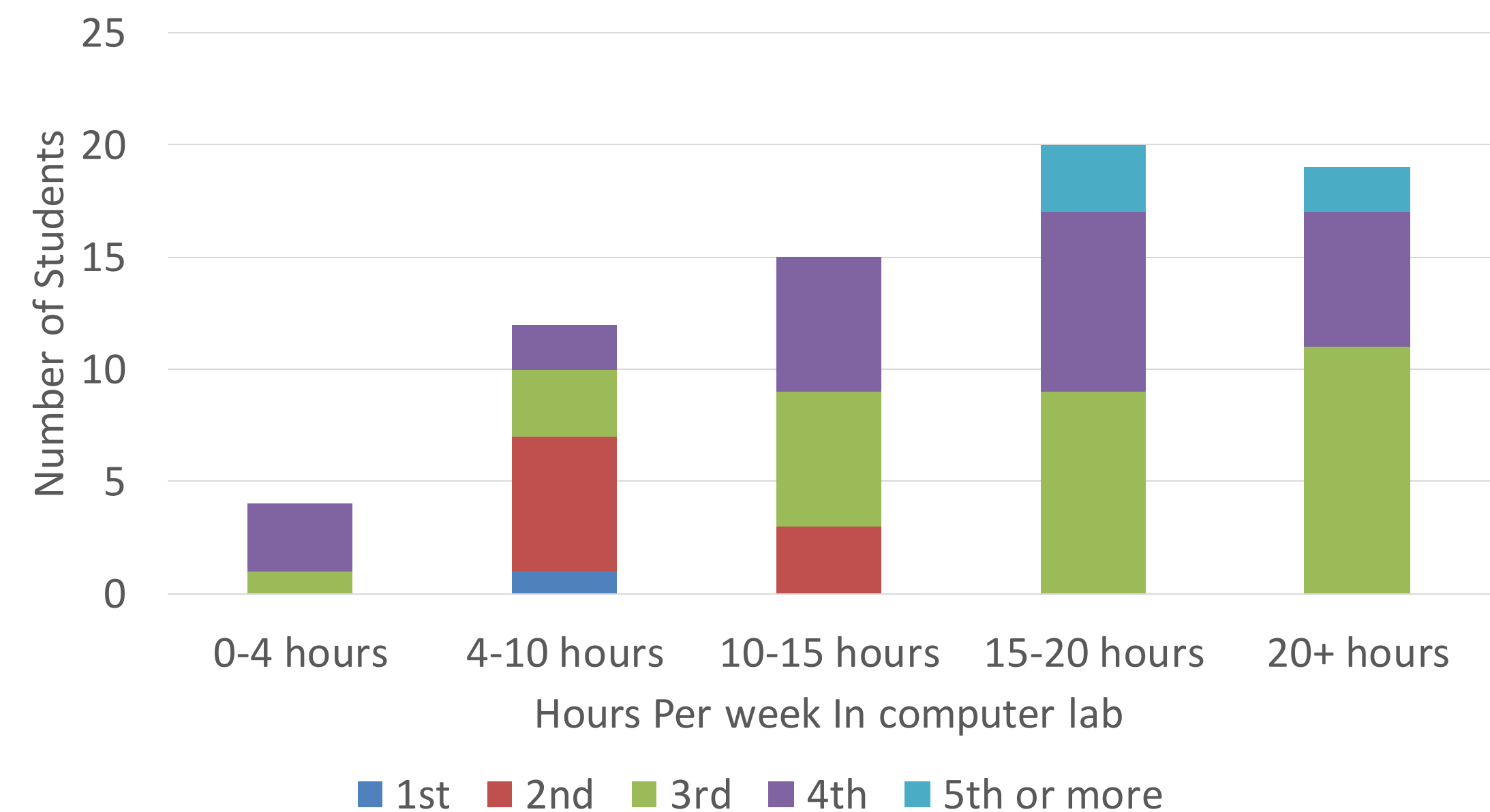
## Methodology

The research conducted included **RULA** (rapid upper limb assessment) and **ROSA** (rapid office strain assessment) analyses of the current sitting desk design compared to analyses of the proposed sit-stand design. Students who regularly use the workstations were surveyed to gather information about the student's major, their year of study, and how much time they spend at the desks. The students were also asked to provide feedback on how to improve the workstations.

Hours per week at a computer based on student's major

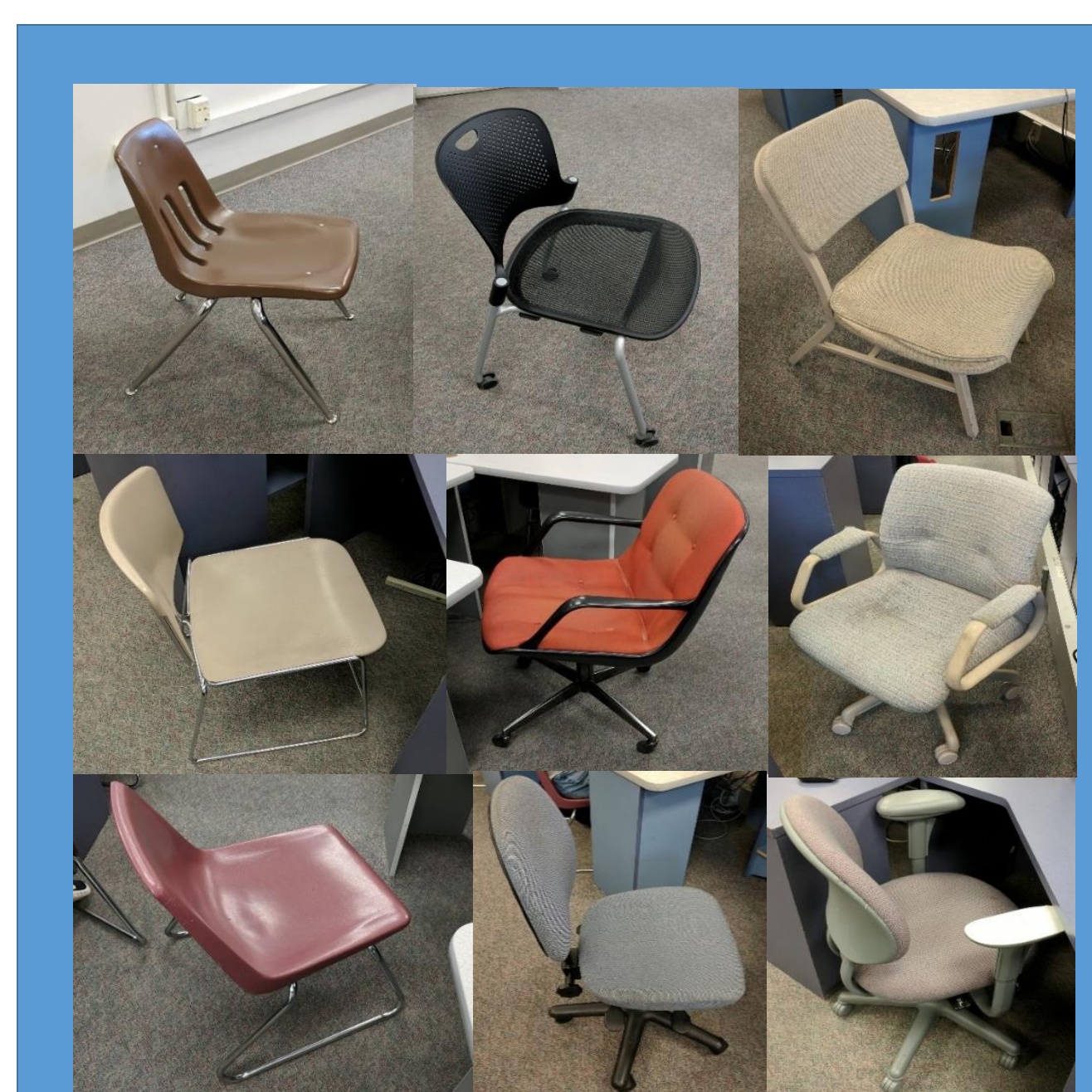


Hours per week based on student's year in school



## Findings

Results of the RULA and ROSA analysis indicate that the current design is **high risk**, and further investigation and change may be needed. 94% of the students who responded to the survey agreed or strongly agreed that the ergonomics of the desks in the computer lab could be improved. 73% also agreed or strongly agreed that their physical health would improve with better ergonomics in the computer labs. Many of the suggestions from the students included better chairs and adjustability for the range of students who use the workstations.



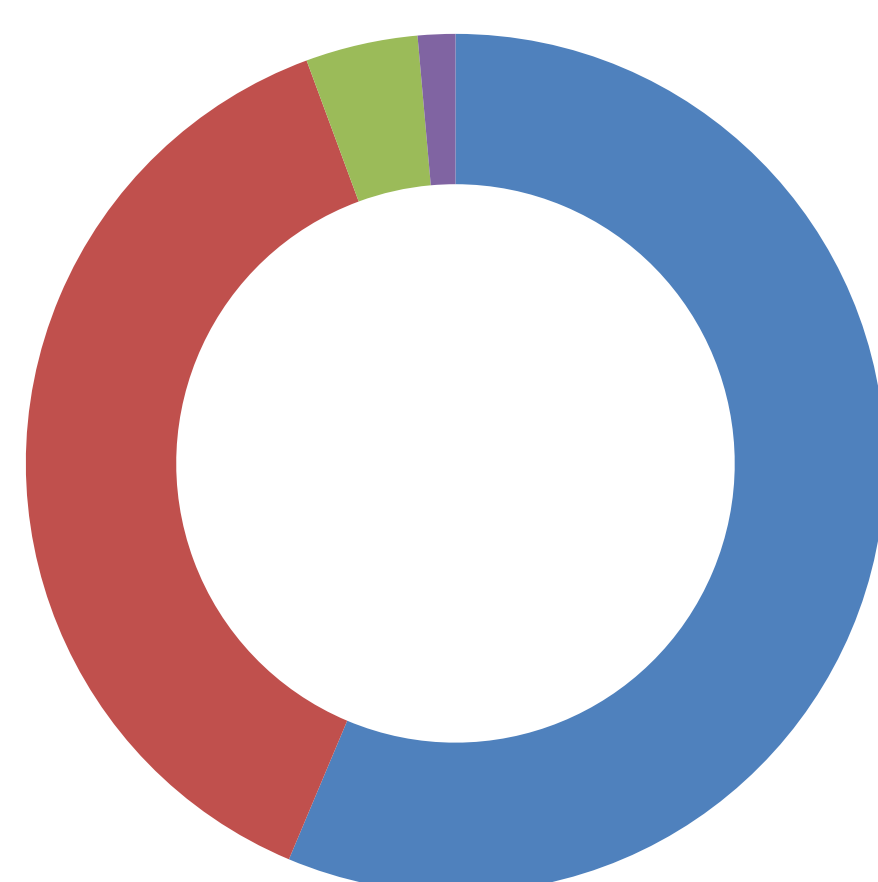
The 9 different chair styles currently available in the Engineering Ross computer labs

## Looking Ahead

Researchers applied for a grant through the Sustainable Action Fund at Western Washington University, but were denied due to an existing request for updated workstations in a minor capital budget proposal submitted annually by the engineering department for the last 4 years.

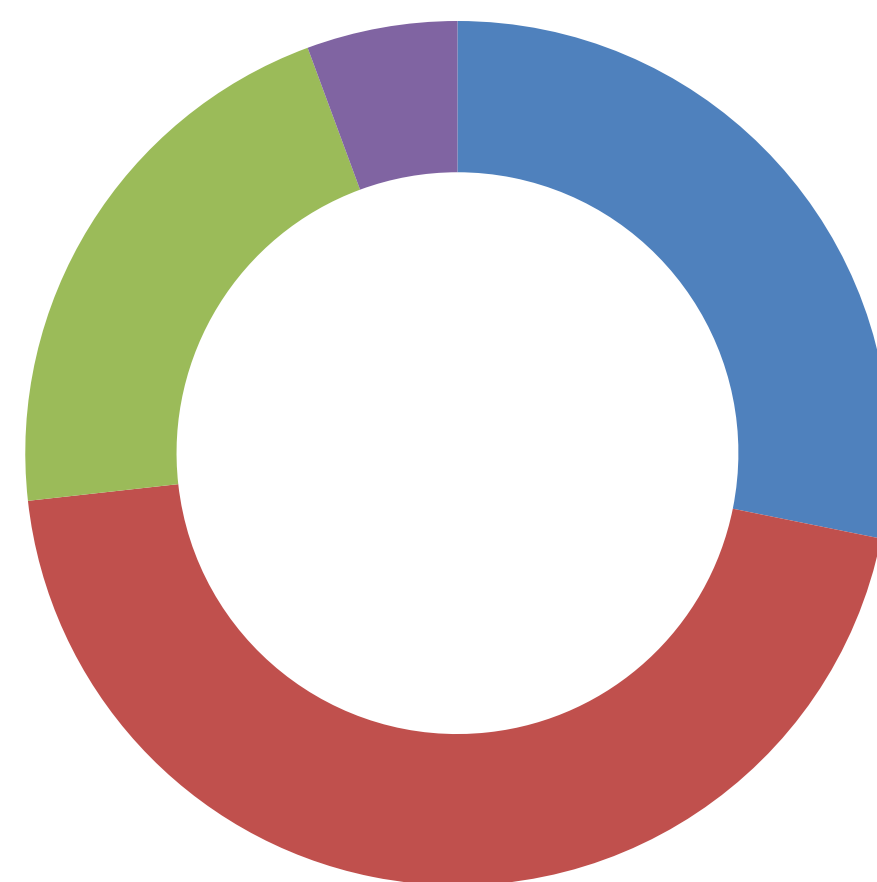
The workstation analyses and survey results point to students needing and wanting updated workstations. The SAF believes that workstations should be state-funded, but with no indication that funding will be granted, many students are stuck using ergonomically unsuitable desks over 20 hours per week.

The ergonomics of the workstations in ET 262 and ET 308 could be improved.



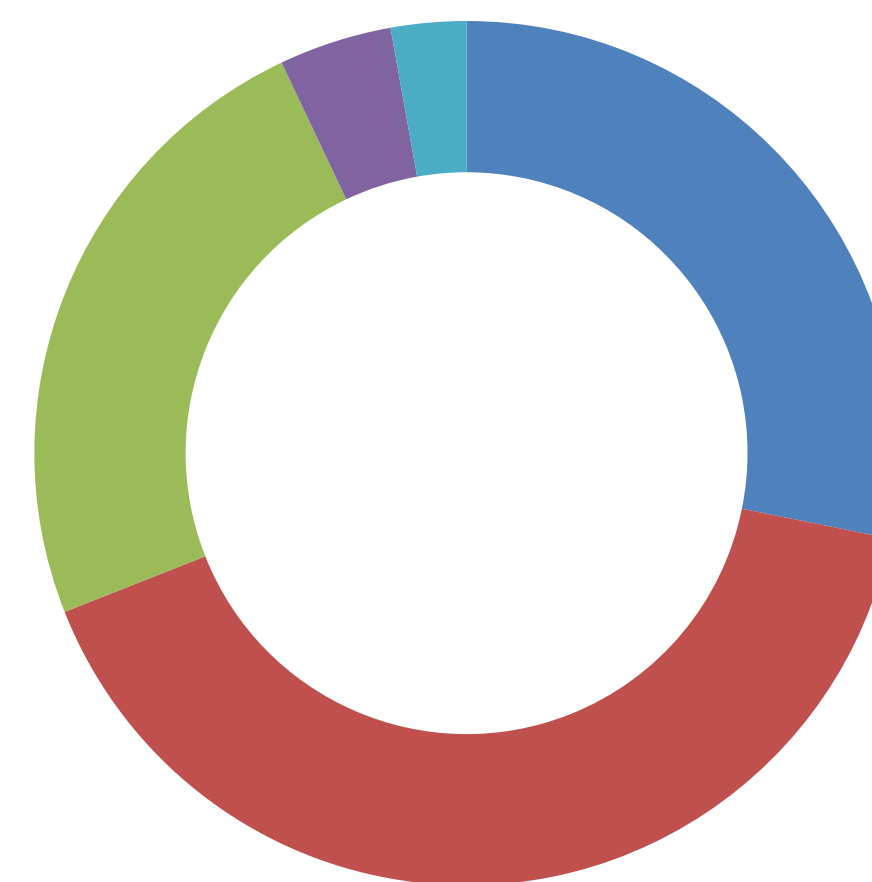
■ Strongly Agree  
■ Agree  
■ Neutral  
■ Disagree  
■ Strongly Disagree

My physical health would improve if there were more ergonomic workstations in ET 262 and ET 308.



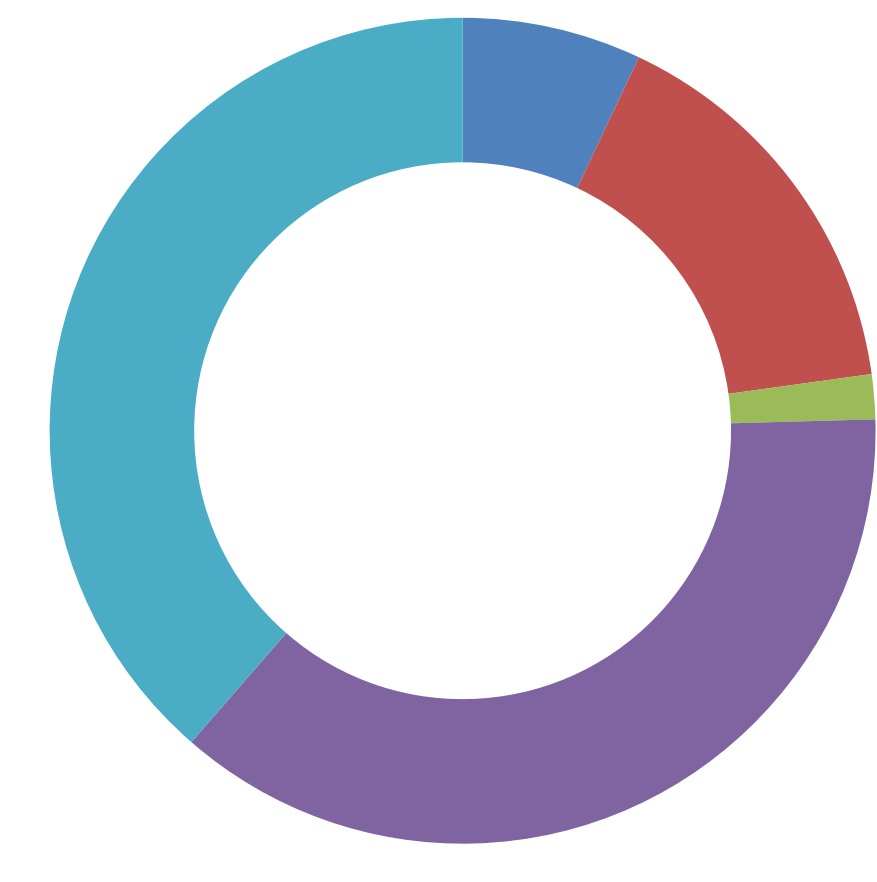
■ Strongly Agree  
■ Agree  
■ Neutral  
■ Disagree  
■ Strongly Disagree

I would be more academically successful if there were more ergonomic workstations in ET 262 and ET 308.



■ Strongly Agree  
■ Agree  
■ Neutral  
■ Disagree  
■ Strongly Disagree

Have you experienced any health issues from the workstations in ET 262 or ET 308?



■ Neck Pain  
■ Back Pain  
■ Eye Strain  
■ Combination  
■ No