



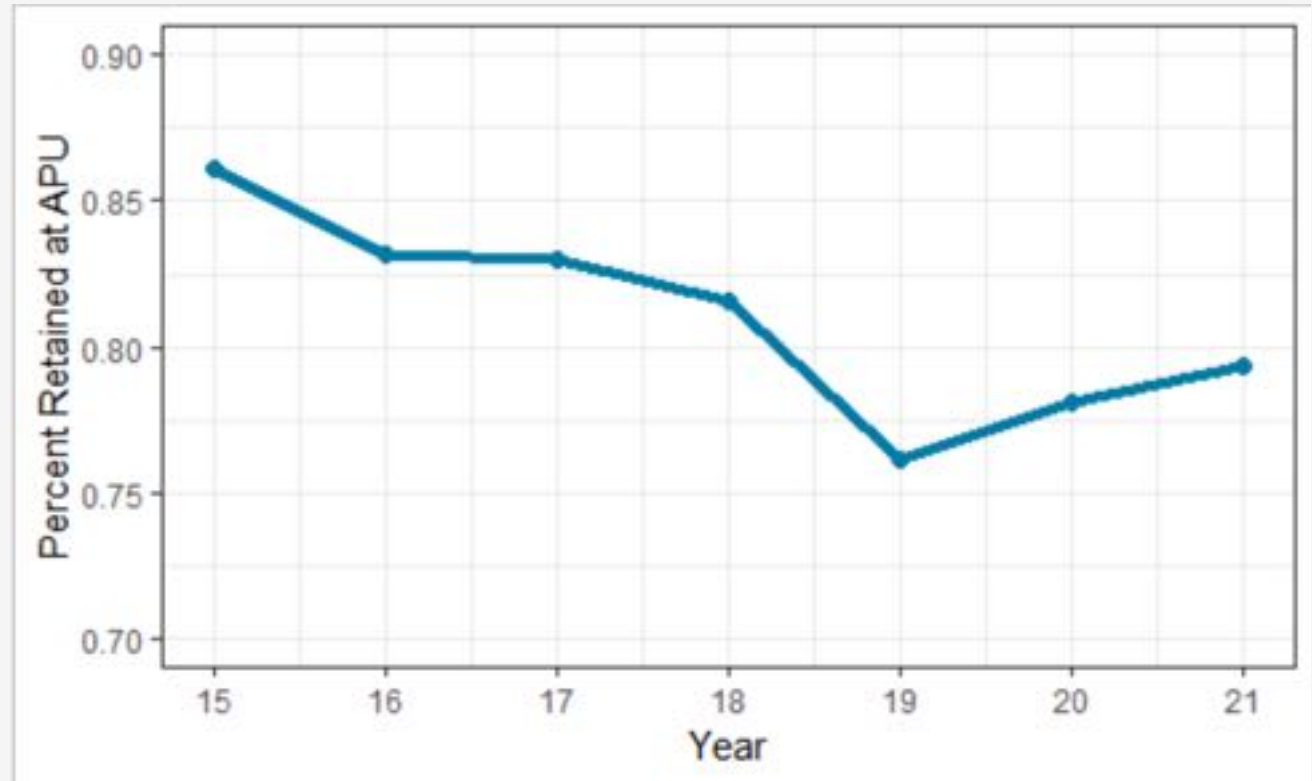
ANALYSIS OF STEM RETENTION AND GATEKEEPING INTRODUCTORY COURSES

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Research Motivations and Goals

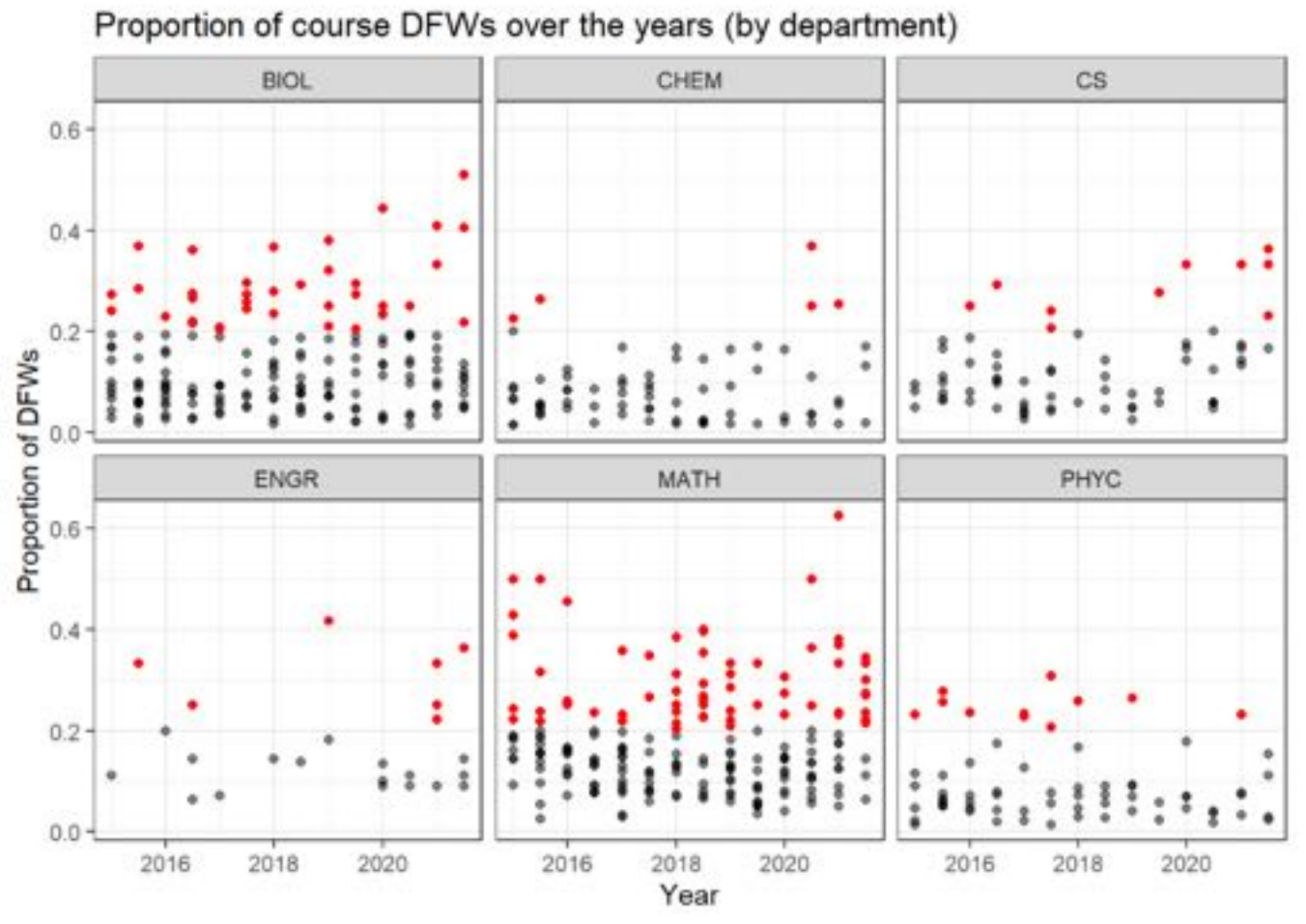
1. STEM Retention
2. Identify Gatekeeping Courses
 - Learning Assistants



Data and Methods

- 2015 to present student enrollment and performance data
 - Course as the object of study
 - What percentage of students are retained in their STEM major after failing Calculus I?
 - Compare within demographics
 - Note grades over curriculum progression
 - Coded in R
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Counting DFW's

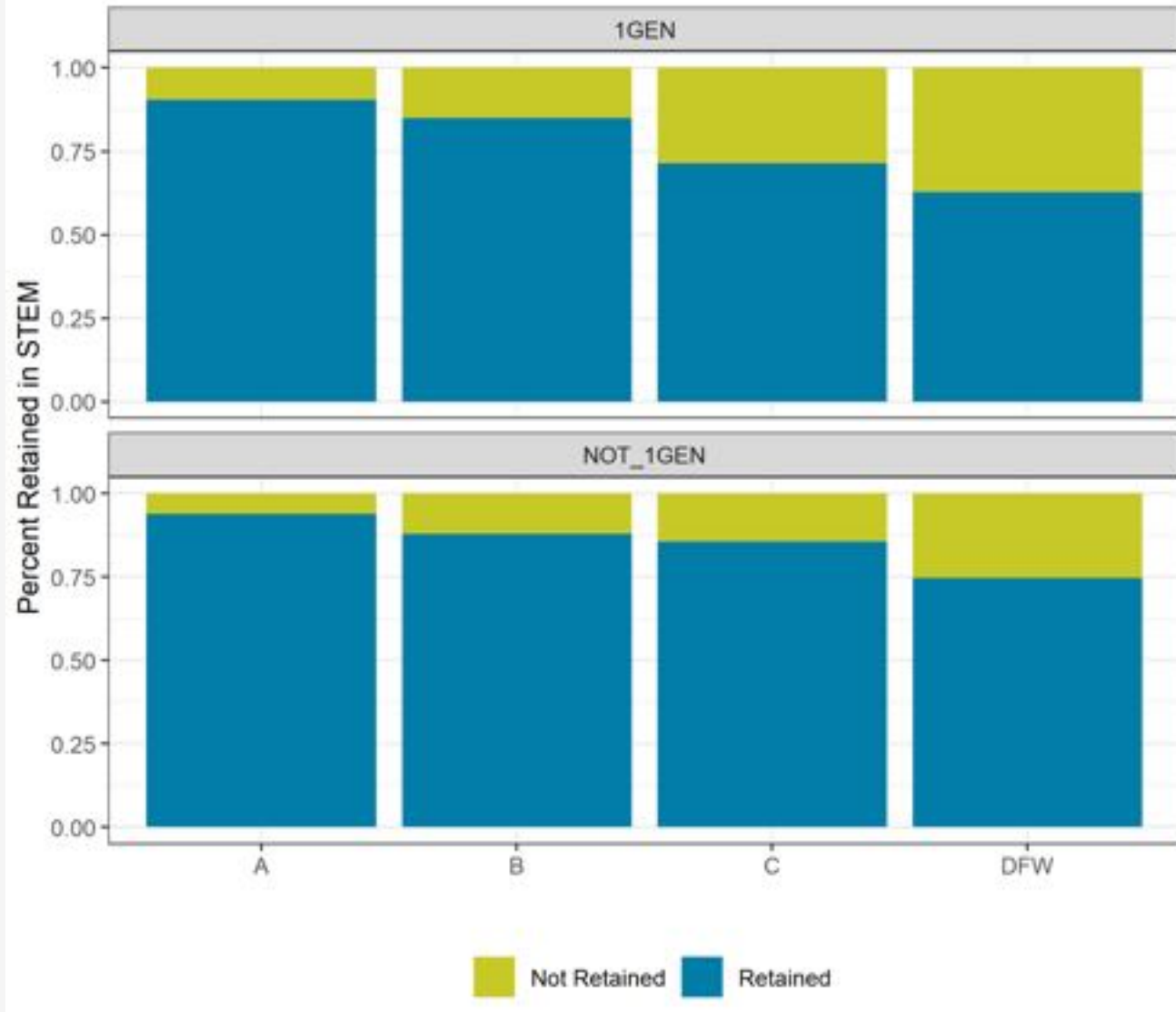


- **Red points** signify courses where more than 20% of the class had a DFW
- Math and biology have the most DFWs

- Determine courses to focus on
- Note math and biology performance

Calculus I

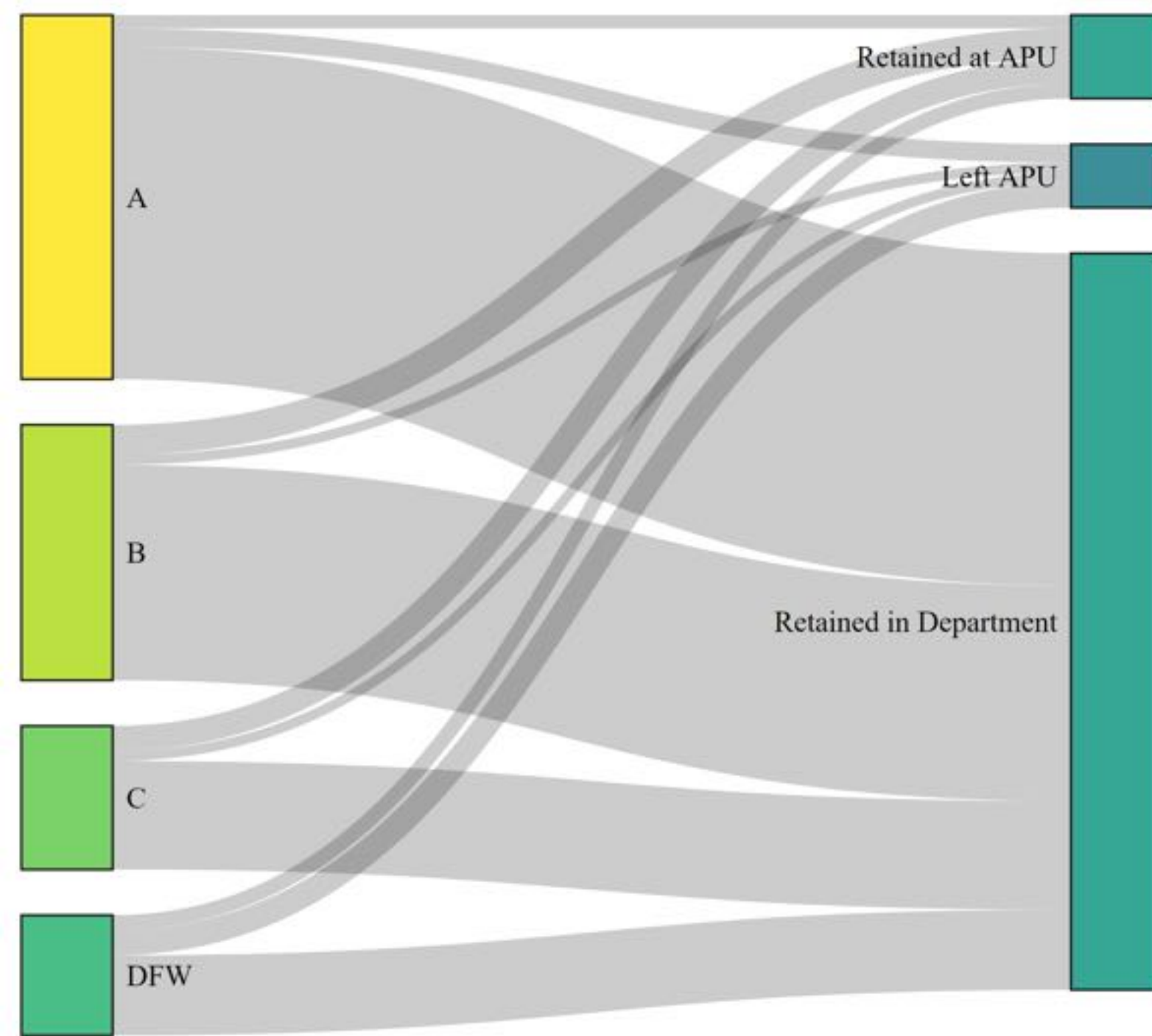
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- Expected lower retention for DFW students
- Heightened by first generation status
- Similar between males and females

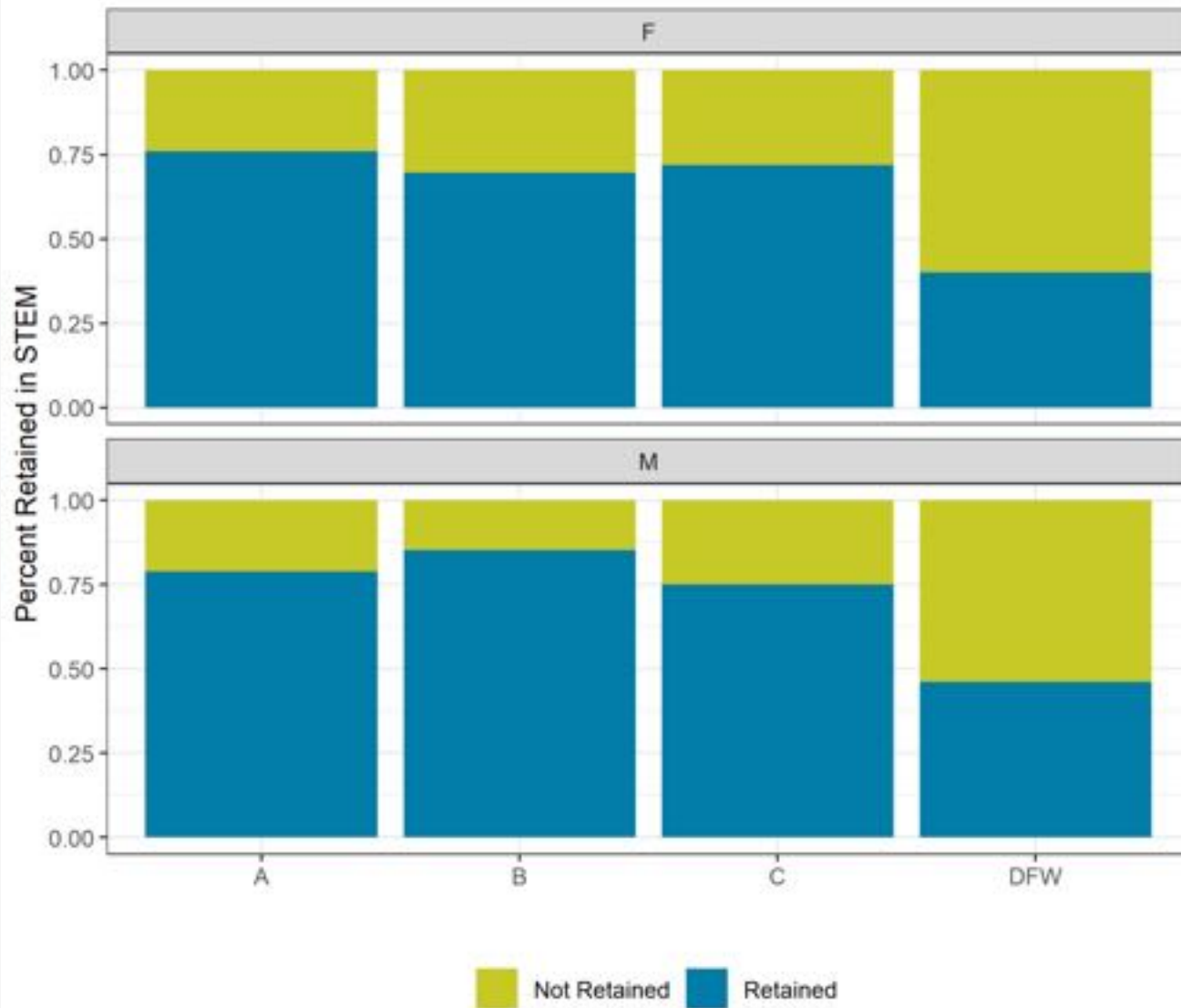
Calculus I Next Semester Outcomes

- Note a larger number of students with DFW leave APU entirely



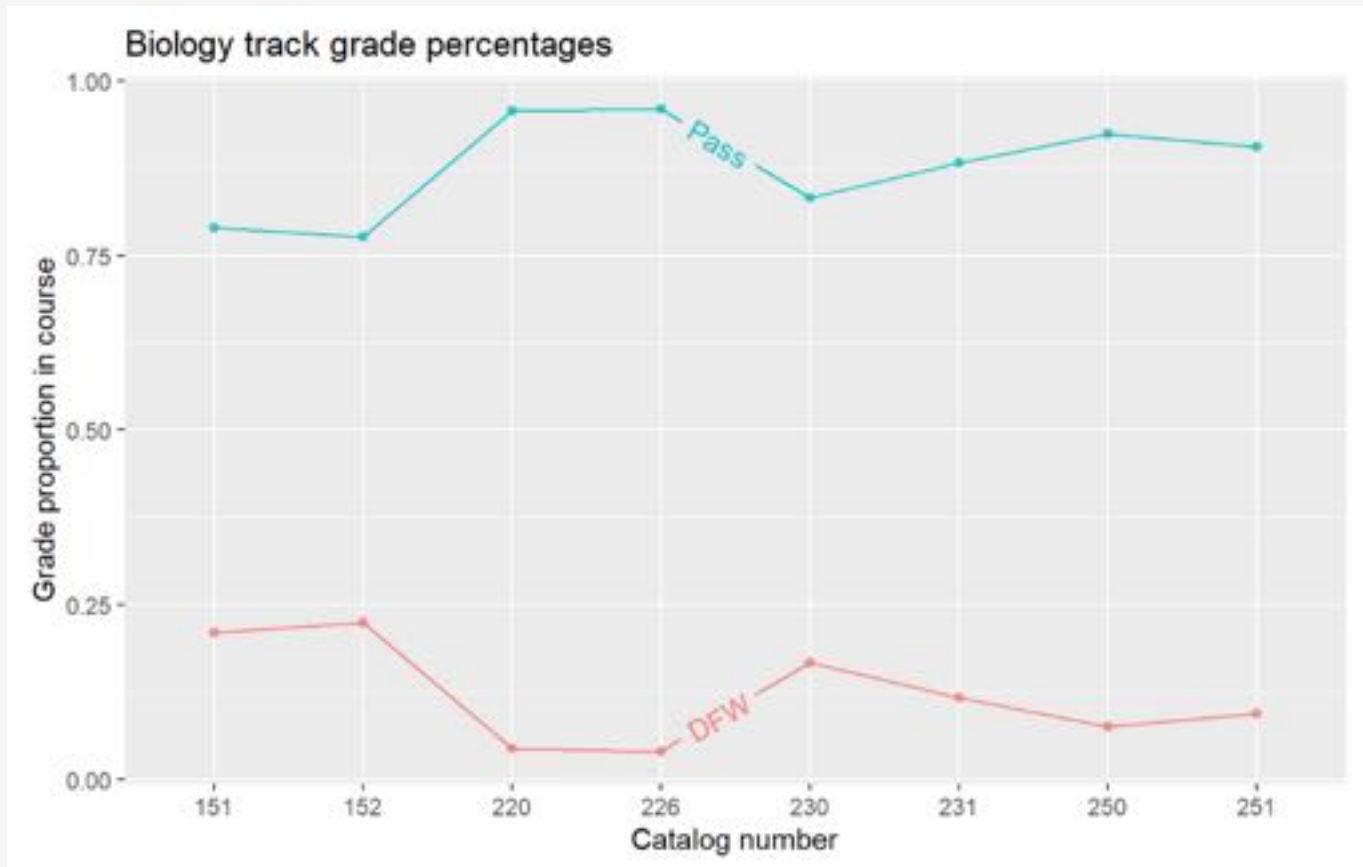
Intro to Stats

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- Low Retention Overall
- Comparable between males and females and regardless of first-generation status

Grades Over Curriculum Progression



- Gatekeeping courses for some tracks
- General increase in grades occurs after gatekeeping courses

Conclusions and Next Steps

- Important factors
 - First generation status
 - Initial GPA
 - Commuter status
- Courses for further study
 - Introductory statistics
 - General Biology I
- Look into classroom environment of gatekeeping courses
- Model/predict class success

References

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