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THE EFFECT OF THE PANDEMIC ON THE

MONTGOMEY COLLEGE FALL 2020

FRESHMAN COHORT

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DATASCIENCE CAPSTONE

MAY 2021

# INTRODUCTION

As a Montgomery College student, I am interested in the effect the Covid-19 pandemic has had on the college. More so, the effect on the incoming freshman class of 2020. Many families and students have faced undue challenges due to the Covid-19 pandemic. Challenges which may resonate for years to come. As classes moved online, students were also presented with a new learning environment. This in itself presented challenges for some and learning opportunities for others.

This project explores the effects of the Covid-19 pandemic and virtual learning on the Montgomery College freshman cohort of Fall 2020.

# THE DATA

The data for this project was obtained from Professor John Hamman, Chief Data Analytics & Insights Officer at Montgomery College. A list of high schools in Montgomery County was obtained from dataMontgomery <https://data.montgomerycountymd.gov/Education/Public-High-Schools/bfcv-pyzh>

# VARIABLES OF INTEREST & TERMINOLOGY

* **Freshman Cohort:** Students with no prior tertiary Education. They start their first degree in the Fall Semester. They may have earned AP credits in High School.
* **Term Year:** The Fall 2020 cohort is classified as term year 2021. The Fall 2019 cohort is classified as term year 2020.
* **Hours Attempted:** This includes both credit and non-credit hours attempted.
* **Hours Earned:** These are Credit hours earned. This may also include AP credits, as AP credits are reported in the first semester the student joins the college.
* **Full-time (FT) or Part-time (PT):** This is based on the students intended enrollment as specified in the admissions application.
* **MCPS:** Montgomery County Public Schools
* **Good standing:** A minimum GPA of 2 is required for a student to achieve and remain in good academic standing.

# ANALYTICAL INSIGHTS

1. Who’s here & Who’s not here?

There was an 8.7% decrease in the incoming cohort size. Full time registration decreased by 6% and part time enrollment decreased by 15.8%. Roughly 2/3rd  of the students are full-time and 1/3 part time in both term year 2020 (Fall2020) and term year 2021 (Fall 2020).

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|  | **Change in Full- time enrollment** | **Change in Part- time enrollment** |
| **Asian Male** | -25% | 1.69% |
| **Asian Female** | 0% | -40.6% |
| **African American Male** | -21.2% | -20.1% |
| **African American female** | -2.3% | -8.3% |
| **Hispanic Male** | 2.7% | -24% |
| **Hispanic Female** | 17.6% | -11.7% |
| **White Male** | -10.8% | 20.9% |
| **White female** | -4.6% | -2.9% |
| **Foreign Male** | 23-23.9% | -40% |
| **Foreign Female** | -13.3% | -39.75% |

The decrease in full time student enrollment was largely due to a decrease in male students and foreign students. Surprisingly, there was a 18% increase in full-time Hispanic female students and a 3% increase in full-time Hispanic male students. The largest decreases in part time student enrollment were seen in Foreign male & female students, Asian female and Hispanic male students. There was a 20.9% increase in part-time white males.

1. **Have some majors become more or less popular?**

The 5 most popular majors in the college for both part-time and full-time students are Business, Computer Science, General Studies, Health Studies and Science. In term year 2020, these majors accounted for 71% of the full-time registrations and 69% of the part-time registrations. In term year 2021, these majors accounted for 68% of the full-time registrations and 65% of the part-time registrations. For Full-time students, enrollment in General studies dropped 28%. There was a 38% increase in full-time Health Studies majors and a 8.2% increase in full-time Business majors. For Part-time students, enrollment in General Studies decreased 28%, Health Sciences decreased 17% and Business decreased 25%.

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In term year 2020 there were more part-time than full-time health majors, however in term year 2021, there are more full-time than part time health majors. Hispanic student registration in Health Sciences has doubled.

1. **Are students attempting more or less hours?**

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Part time students were attempting the same number of hours. Full-time students were attempting slightly more (1hr more). Hence there was not much impact on the number of hours students were attempting.

1. **Are students earning more or less hours?**

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Part time students earned the same number of hours. Full-time students earned slightly more (median 1 hour higher). Hence there was not much impact on the number of hours students’ earned.

1. **Are students performing better or worse (GPA)?**

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A GPA of 2.00 is required for a student to be in good standing in the college.

Part time students performed slightly better. There was a 3.1% increase in the number of students in good standing. Full-time students performed slightly worse. There was a 3.1% decrease in the number of students in good standing.

1. **Are certain sub-groups affected more than others?**

Students who graduated from MCPS High Schools and who were 20yrs of age or younger at time of enrollment, made up 74.5% of the freshman cohort in term year 2020 (Fall 2019) and 52.5% of the part-time freshman cohort. Hence I wanted to examine the effect of the pandemic on this group of students. In term year 2021, these MCPS graduates who were 20yrs old and younger, made up 75% of the full-time student cohort and 58% of the part-time student cohort.

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I have further divided this group into subgroups based on Race. With the full-time students there was a decrease in Asian, African American and White students and an increase in Hispanic Students. With the part-time students, there was an increase in white students and black students and a decrease in Asian and Hispanic students.

|  |  |  |
| --- | --- | --- |
|  | **Change in Full-time enrollment** | **Change in Part-time enrollment** |
| **Hispanic** | **11.6%** | -19.6% |
| **White** | -9.1% | **+31.3%** |
| **African American** | -16.1% | 2.6% |
| **Asian** | -16.5% | -8.7% |

**Full-time students from MCPS High Schools, 20yrs and younger**

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White, Hispanic and African American students were . attempting more hours. Asian students were attempting less hours

White, Hispanic and African American students were earning more hours. Asian students were earning less hours.

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There was a 2.75% decline in the percentage of Asian students in good standing (GPA >2).

African American students had a higher median GPA and Q3, however there was a 2% decrease in the percentage of students in good standing. Hispanic students had a slight drop in GPA, (lower Q1 and Q3) however the percentage of students in good standing did not change. White students had a slight improvement in GPA and a 2.3% increase in the number of students in good standing.

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Of the Full-time students, Asian students were negatively affected by the pandemic. It should also be noted that this group had the largest drop in full-time enrollment. The virtual classes had little impact or a positive effect for African American, White and Hispanic students. Even though there was a 2% decrease in the number of African American students in good standing, overall, they were attempting more hours, earning more hours, and had better grades. African American students were the only race group to have a higher median and third quartile in GPA scores.

**Part-time students from MCPS High Schools, 20yrs and younger**

Part time students were affected more by the pandemic than full-time students.

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Asian, Black and African American students attempting more hours. White students attempting slighter fewer hours (lower Q1), however there was a 31.3% increase in enrollment of white students.

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Asian students (Q1= median), earning slightly more hours. Hispanic students earning the same number of hours. White students earning slightly more hours (Q1 higher). Median for black students has dropped even though Q3 is higher. Using median as measure, black students earning fewer hours.

Box and whisker chart

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Asian students performed worse. They a 12% decline in percentage of students in good standing. Lower median GPA

African American students performed worse. 9.82% decline in students in good standing. Lower GPA.

Whites students had a higher GPA and a 6.9% increase in students in good standing.

Hispanic students had a 3.55% increase in students in good standing. GPA improved.

Of the Part-time students, Asian students and African American students were negatively impacted by the pandemic. The virtual classes had a positive effect for White and Hispanic students. White and Hispanic students were earning the same or slightly more hours than the previous year. The median GPAs for these subgroups increased and the percentage of students in good standing increased.

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