EXECUTIVE SUMMARY/INTRODUCTION
Students have the desire to create class schedules based upon their needs (i.e. balancing family, work & personal responsibilities). However, college schedules do not always offer courses needed to match the desired parameters of students. In order to solve this issue, colleges must create efficient multi-semester, student-focused schedules which yield positive returns for the institution. Multi-semester scheduling would allow for students to navigate life circumstances while also completing courses toward a certificate or degree. Students would have the ability to plan life events and work schedules around courses well in advance. Institutions would be able to plan ahead and work toward an efficient schedule that is balanced, reducing overloaded courses and underutilized resources. An effective course schedule that is planned in advance for multiple semesters and multiple semester registration could lead to retention and course completion with an increase in graduation and certificate attainment.

A multi-semester schedule allows the institution to plan and prepare staffing and classroom space scheduling. By assuring that the schedule is balanced and sections are not underutilized, the college will be able to earn revenue and build more resources. Both the students and the institution would benefit from multi-semester planning and scheduling. An effective multi-semester schedule could improve retention, time to completion, and graduation rates.
RELEVANT LITERATURE REVIEWED

John Barnshaw, the Associate Vice President for Research and Statistics at AD Astra Information Systems analyzed the value in rethinking the course schedules that exist at colleges and universities. Data collected from the Higher Education Scheduling Index (HESI) was analyzed to determine the benefit to students who have the opportunity to register for classes a year at a time versus only one semester at a time. In *Bending the Curve: How colleges and universities can rethink the course schedule to graduate more students, faster*, Barnshaw shares the benefits that a multi-semester schedule would have on student success as well as benefits to the institution.

A schedule that is well designed and planned allows for students to plan ahead. Students who are not retained from one fall semester to the next fall semester are less likely to graduate from the institution (Barnshaw, 2018). This lack of retention is often the result of students having to plan around life challenges and personal schedules. Well-designed scheduling pathways that are identified for students ahead of time and far out into the future, could eliminate barriers to student access and course completion. Students who have unclear, uncharted paths are more likely to drop out when scheduling challenges occur. A defined schedule could result in increased course completion numbers for the college and positive impact to student success. “The greater the amount of scheduling inefficiency, the lower the graduation rate for institutions studied” (Barnshaw, 2018).

Fiscal alignment and increased tuition revenue are an additional benefit of a balanced, well-planned schedule that is designed for multi-semester scheduling. Stark State in North Canton, OH was able to yield an increase in tuition by $1.3 million dollars over one academic year due to better scheduling (Barnshaw, 2018). Efficient scheduling practices can lead to overall student success and provide revenue generation benefits to the institution.
The Community College Research Center addresses the benefits of a clearly defined path and the benefits to student success rates in *Funding Guided Pathways: A Guide for Community College Leaders*. Helping students define and understand the path to the end goal is the focus of the literature. Students who participate in course scheduling using an a la carte approach or “cafeteria college” rarely complete (Jenkins et. al., 2018). Students most often end up paying more for college and have a limited return on investment due to the high rate of degree incompletion.

Reforms to the current college scheduling practices would allow for “predictable scheduling” which is designed with the student in mind and accomplished for the entire academic year. By establishing a defined schedule centered on students, the goal for degree completion becomes more visible for students. Students have the ability to plan their life accordingly and the institution has the ability to plan course schedules and budgeting for faculty over an entire year versus the semester to semester (Jenkins et. al., 2018). The added benefit for institutions would be that they can balance the typical schedule.

**DATA EXAMINED**

To gain an understanding of the perspective of students within our local community, a survey was developed by our project team and administered to students at Edison State Community College in Piqua, Ohio. A listing of the survey questions can be found in Appendix A. The survey revealed that 67.27% of students registered within the first 3 weeks of registration. Further, we noted that more than half of the students need their schedule to allow them to balance work, school and extracurricular activities. The College Credit Plus students who responded to the survey at a rate of 23.64% were concerned about scheduling their classes around extracurricular activities. (Crow, 2022). It is believed that multi-semester scheduling allows College Credit Plus students to plan their schedule for the full academic year which would reduce scheduling conflicts..
“More than two-thirds of courses in a typical schedule are not balanced.” (Barnshaw, 2018) While multi-semester registration is available but not mandatory, Cleveland State University (CSU) has seen an increase from 60% to 89% usage in the first three years of implementation. Additionally, CSU saw a 3% increase in student retention after the first year of implementation (EAB, 2016).

From the perspective of section management and instructor assignments, schedules are unbalanced at an alarming rate of nearly two-thirds according to Barnshaw (2018). He further notes that one quarter of the sections are scheduled as overload and nearly half are underutilized. By adjusting to a balanced scheduling practice, Stark State College was able to save $2 million in instructional costs and increase their tuition yield by $1.3 million in one year (Barnshaw, 2018). In an effort to optimize their unbalanced schedules, Steven F. Austin University added 58 sections which increased student enrollments by 1,700 and added over $1.5 million dollars to revenue (Barnshaw, 2018).

**PROPOSED CHANGES/REFORMS TO BE ADOPTED**

Proposed changes/reforms to be adopted are multi-semester scheduling which would allow students to schedule their courses for one full academic year or three semesters. An example is a student entering college in the fall semester would have the opportunity to register classes for the fall, spring and summer semesters. At the end of each semester, the student will be allowed to add one additional semester to their schedule. At the end of the fall semester, the student will work with an advisor and register for their fourth semester (i.e. the next fall semester). The student will have a defined path to follow with the specific detail of which course/which day and time. Advisors will educate the students on their paths and expectations of prerequisites and program progression. In order to reduce the time to complete their degree, students are expected to stay on the designated path. Multi-semester scheduling assists students to be focused by allowing them to efficiently plan ahead and avoid many of the “balancing challenges” that many students encounter. Additionally, multi-semester scheduling allows institutions to efficiently plan course schedules and faculty
assignments as well as improve academic budgeting and forecasting processes. Students can avoid “bottlenecks” where they are unable to schedule a necessary prerequisite. The administration has the ability to add courses farther in advance if course overload or underload occurs. Faculty will know their schedule one year in advance at all times as well as the students.

**IMPLEMENTATION CHALLENGES**

Some challenges were identified in regard to successful implementation of a multi-semester scheduling initiative. Migrating from traditional term scheduling to multi-semester scheduling can appear to be daunting or unattainable since changes to an institution’s culture and internal business processes are necessary to ensure success. For most institutions, scheduling processes have been in place for decades and involve a variety of stakeholders (i.e. faculty, students, staff, board of trustees). The introduction of multi-term scheduling could initially be disruptive; however, the research has shown that the end result will be beneficial for students and the institution.

“The course schedule might, for example, be approved by the registrar, but must balance student demand, faculty interest and availability, chair input, dean approvals, and facility and enrollment manager guidance.” To combat this issue and ensure success, Cleveland State University succeeded in implementing an awareness campaign replete with frequent communications, informational presentations, and outreach activities to various stakeholders. Institutions endeavoring to implement multi-term scheduling should consider similar approaches.

Other challenges could include determining how to address students that fail or need to re-take courses that are part of a defined sequence; overcoming faculty opposition to annual course planning; ensuring students are eligible for the courses they are intending to take; addressing student accounts that may fall short of their financial obligations throughout the academic year; and facilitating change management.
among faculty as they may be required to adapt to new learning formats, room locations, and course delivery times.

CONCLUSION
Creating a schedule that allows students to plan ahead will lead to a larger return on investment for students as well as the institution. Planning ahead allows for students to develop a schedule that works within their lifestyle and allows for necessary adjustments to be made that pave the way to success. Students that register for an entire year are psychologically more invested in completion. The student sees a progression of their education from the very beginning. In addition, it allows the institution to plan and budget accordingly. Faculty can be made well aware in advance of what their schedule will look like.

Although there will be challenges to the change, the benefits of student success and completion outweigh those challenges. As evidenced by the data shared in the literature review and survey, students want to be able to plan ahead. They know that having a clear path will allow them to benefit and have an increased chance of obtaining their final goal.
APPENDIX A
Survey Questions, Class times and Student needs, Edison State Community College.

Q1 What area are you majoring in?
Q2 How many classes are you taking this semester?
Q3 What delivery mode do you prefer?
Q4 If you had to take on-campus classes - What days of the week would your perfect schedule hold classes on? (Select all that apply)
Q5 How flexible is your schedule?
Q6 If you had to take on-campus classes - How many days a week would you prefer your courses to be held on?
Q7 What Time of Day would you want on campus courses to be held at?
Q8 Which of the following schedules would you be more interested in seeing the college use? Circle all that apply
Q9 Would you take an accelerated 4-week course held between the main semesters (for example Dec-Jan between Fall and Spring semesters)?
Q10 How soon after registration opens do you register?
Q11 How would you describe your understanding of what courses you need for your major and what order they should be taken in?
Q12 How well is the schedule you have this semester working with your life-school balance?
Q13 What was your greatest scheduling challenge when choosing your classes for this semester?
Q14 What have been your greatest scheduling challenges overall during your time at the college?
Q15 What suggestions do you have to help as the school builds the schedule for next year?
REFERENCES
Barnshaw, J. (2018). Bending the Curve How colleges and universities can rethink the course schedule to graduate more students, faster. Overland Park, KS: Ad Astra.