

The background is a dark, textured surface with various white sketches. On the left, there's a large sketch of a microscope. Above it, a globe is visible. In the bottom left, there's a stack of books. In the bottom right, there are sketches of mathematical symbols like a percent sign, an exclamation mark, and a less-than sign, along with some handwritten text in a notebook.

# Math, Sciences, and Business

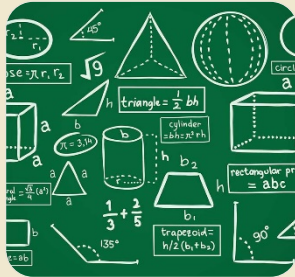
Carol Hernandez, EdD.

# College of Marin's Mission

- College of Marin's commitment to educational excellence is rooted in providing equitable opportunities and fostering success for all members of our diverse community by offering:
  - preparation for transfer to four-year colleges and universities
  - associate degrees and certificates
  - career technical education
  - basic skills improvement
  - English as a second language
  - lifelong learning
  - community and cultural enrichment
- College of Marin responds to community needs by offering student-centered programs and services in a supportive, innovative learning environment that promotes social and environmental responsibility.



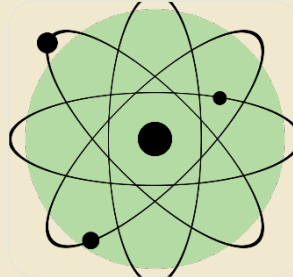
# Area Departments and Programs



Math



Biology  
Geography  
Geology  
Natural History  
Environmental  
Sciences



Chemistry  
Physics  
Engineering  
Astronomy  
Computer  
Science



Economics  
Ethnic Studies  
History  
Political  
Sciences



Anthropology  
Sociology  
Psychology  
Behavioral  
Sciences



Business  
Real Estate  
Hospitality

# Area Departments (Faculty and Staff)

Math	Life and Earth	Physical Sciences	Social Sciences	Behavioral Sciences	Business
<ul style="list-style-type: none"><li>• 8 FT</li><li>• 5 PT</li><li>• 2 Math Instructional Specialist</li><li>• 1 Math Lab Coordinator</li></ul>	<ul style="list-style-type: none"><li>• 8 FT</li><li>• 8 PT</li><li>• 3 Laboratory Technicians</li></ul>	<ul style="list-style-type: none"><li>• 6 FT</li><li>• 13 PT</li><li>• 2 Laboratory Technicians</li></ul>	<ul style="list-style-type: none"><li>• 4 FT</li><li>• 11 PT</li></ul>	<ul style="list-style-type: none"><li>• 6 FT</li><li>• 5 PT</li></ul>	<ul style="list-style-type: none"><li>• 3 FT</li><li>• 9 PT</li></ul>

# Summary of Math, Sciences, and Business Faculty and Staff

One Dean

35 Full Time Faculty

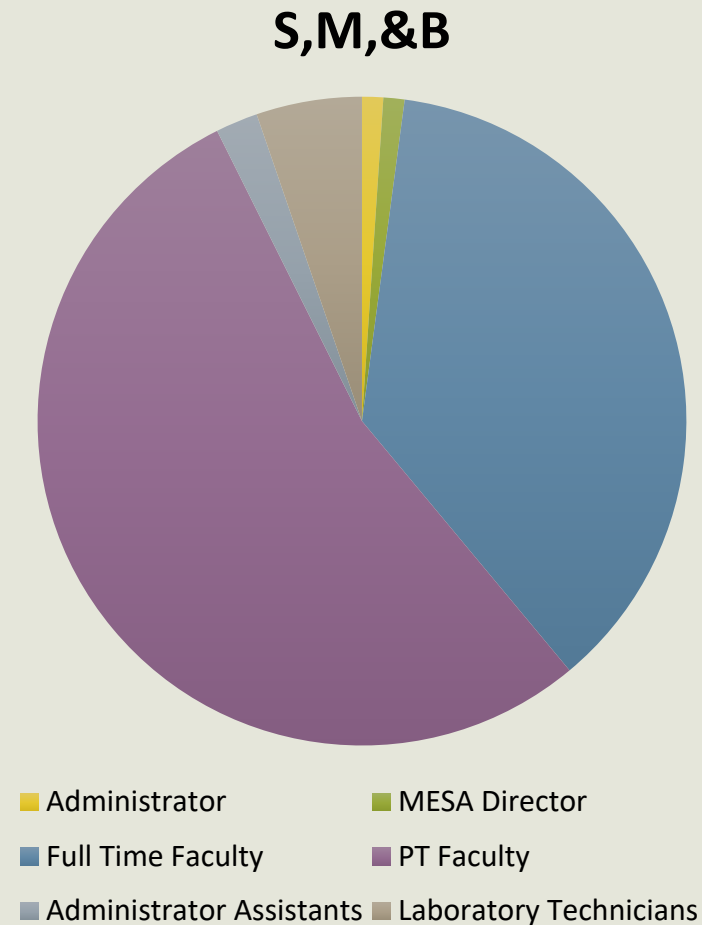
51 Part Time Faculty

2 Administrative Assistants

5 Laboratory Technicians

MESA Director

One Coordinator

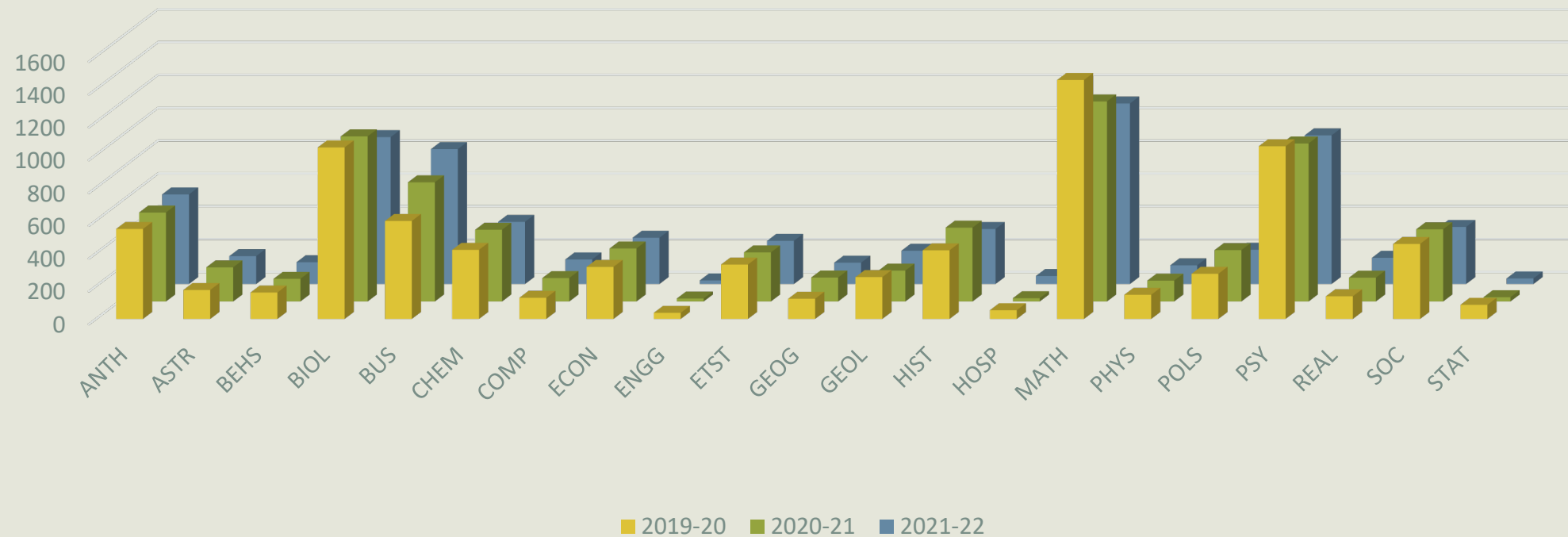


# Instructional Units

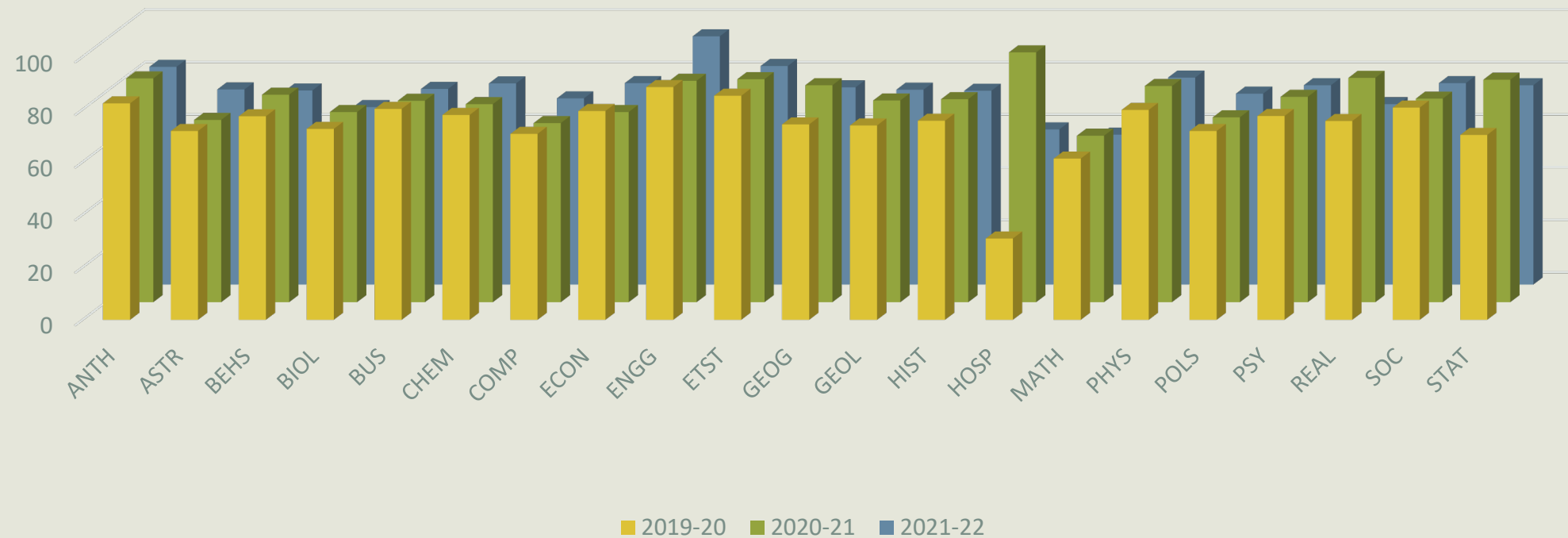
Department	Fall	Spring
Behavioral Sciences	123.43	129.43
Social Sciences	100	97
Life and Earth	176.15	186.11
Math	159.38	179.24
Physical Sciences	146.76	168.93
Business	104.5	92.5



# Unduplicated Headcount by Discipline 2019-20 through 2021-22

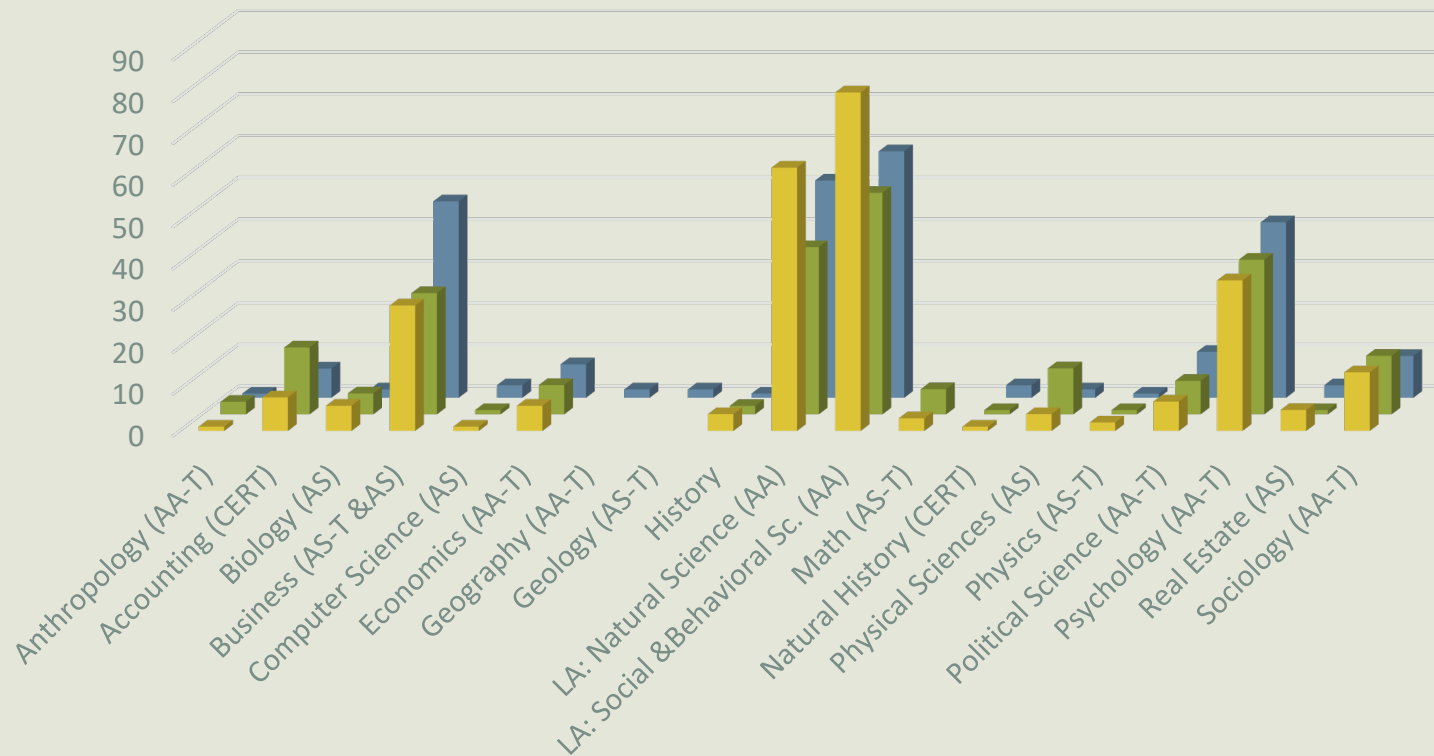


# Successful Course Completion by Discipline 2019-20 through 2021-22





# Awards 2019-2020 through 2021-2022



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# Awards 2019-2020 through 2021-2022

Degrees	2019-20	2020-21	2021-22
Anthropology (AA-T)	1	3	1
Accounting (CERT)	8	16	7
Biology (AS)	6	5	2
Business (AS-T & AS)	30	29	47
Computer Science (AS)	1	1	3
Economics (AA-T)	6	7	8
Geography (AA-T)			2
Geology (AS-T)			2
History	4	2	1
LA: Natural Science (AA)	63	40	52
LA: Social & Behavioral Sc. (AA)	81	53	59
Math (AS-T)	3	6	
Natural History (CERT)	1	1	3
Physical Sciences (AS)	4	11	2
Physics (AS-T)	2	1	1
Political Science (AA-T)	7	8	11
Psychology (AA-T)	36	37	42



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# Students Transferred to a 4-year Institution 2019-2022

Last COM Major	2019-20	2020-21	2021-22	3-YEAR TOTAL
ANTHROPOLOGY TRANSFER	2	2	1	5
APPLIED ACCOUNTING	2	1		3
BIOLOGY	11	12	14	37
BUSINESS ADMIN TRANSFER	23	21	19	63
BUSINESS ADMINISTRATION	2	2	4	8
BUSINESS, GENERAL	5	4	1	10
COMPUTER SCIENCE	7	7	8	22
ECONOMICS TRANSFER	5	5	7	17
GEOGRAPHY TRANSFER		1	1	2
GEOLOGY TRANSFER		1		1
LA: SOCIAL & BEHAVIORAL SC.	7	10	6	23
LIBERAL ARTS: NATURAL SCIENCE	5	9	3	17
MATHEMATICS TRANSFER	6	8	3	17
PHYSICAL SCIENCE	4	4	6	14
PHYSICS TRANSFER	2	3	5	10
POLITICAL SCIENCE AA-TRANSFER	6	12	7	25
PSYCHOLOGY	19	22	23	64
REAL ESTATE	1	1	3	5
SOCIOLOGY	4	8	7	19
<b>TOTAL</b>	<b>111</b>	<b>133</b>	<b>118</b>	<b>362</b>



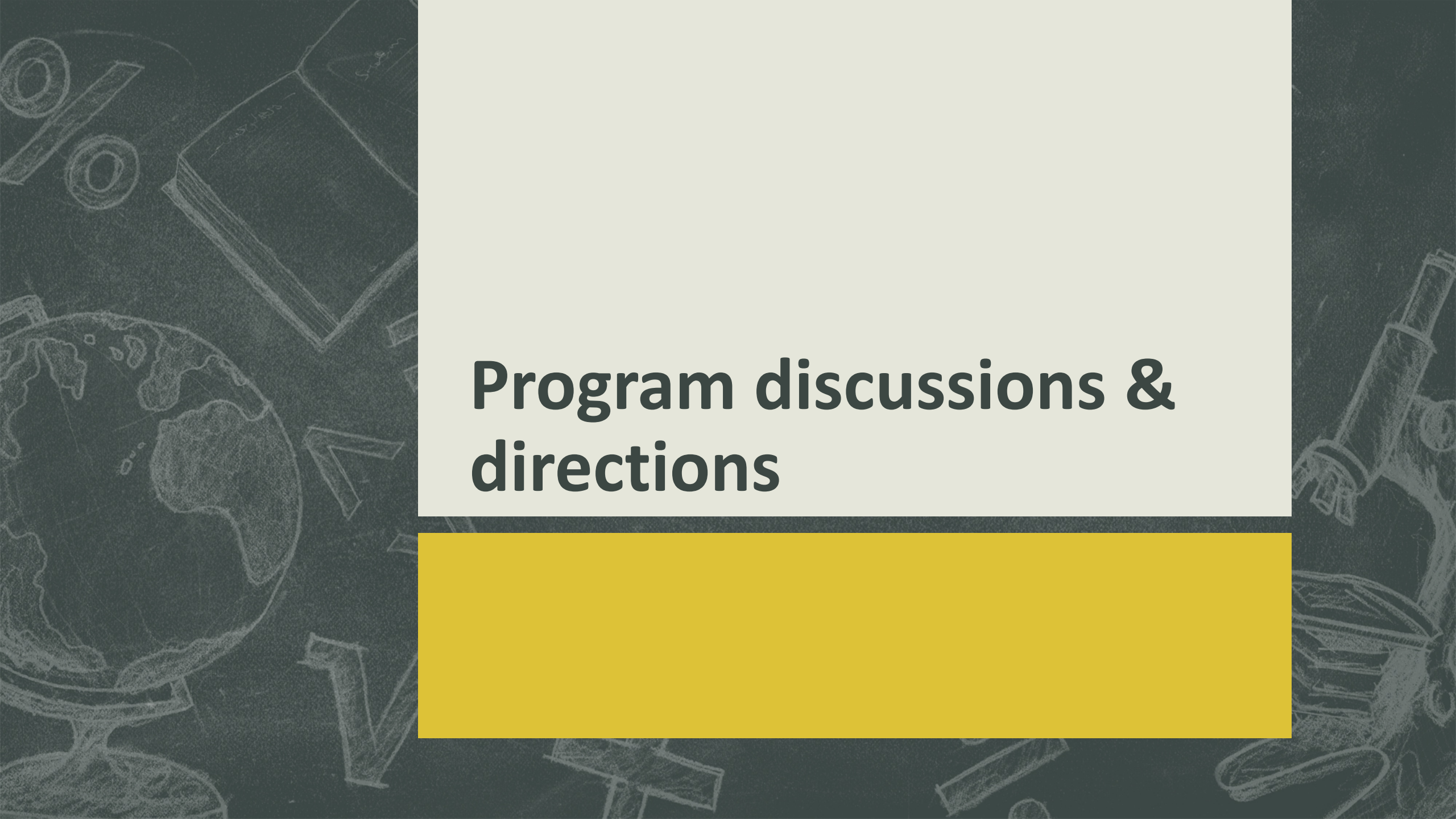
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Definition of transfer student: All non-special admit students who completed 12 or more units at COM and transferred to a 4 year within one year of their last attendance at COM.

# Budget Overview

Department	Business	Social Sciences	Math	Life and Earth Sciences	Physical Sciences	Behavioral Sciences	Math and Sciences
Non-Discretionary	\$679,373.00	\$718,273.00	\$1,786,514.00	\$1,782,865.00	\$1,444,605.00	\$970,493.00	\$336,377.98
Discretionary	\$352,762.00	\$352,438.00	\$391,369.00	\$490,155.00	\$625,166.00	\$423,000.00	\$2,913.87



The background features a dark, textured collage of white line-art icons representing various educational fields: a globe, a microscope, a book, a percentage sign, a ruler, and a satellite. A large white rectangle is positioned in the upper right, and a solid yellow rectangle is at the bottom.

# **Program discussions & directions**

# Math Department Discussions

- Created a new course: College Algebra for Liberal Arts Majors
- Strategizing how to redesign student support after the major reforms brought by AB 705 and AB 1705, with the goals of improving equitable access and success. The following are strategies currently being discussed.
  - Concurrent Support (by improving Math Lab effectiveness, or via companion courses).
  - New entry points with math skills for science classes.
  - Working with UMOJA and Puente (Preliminary Discussions)

# Business Department Discussions

- The Business department is mindful that **advocating for business as a force** for good in our world requires us to always be seeking opportunities to not only support our transfer students, but to also create new ways to execute upon the guiding principles provided by PRAC. The Business department is focused on:
  - Intentional development of Personal Finance curriculum as a tool for equity and inclusion
  - Learning the Entrepreneurial Mindset as a vehicle to level the playing field for underserved students
- As a result of the Business Program Review, the Business department has brainstormed new ways to serve our Latinx student population to fulfill both their transfer goals as well as their career and upskilling objectives. The Business department is currently:
  - Supporting CTE and ESL with a new roster of vocational hospitality courses coming in Fall 2023.
  - Advancing and promoting local entrepreneurship. The current initiative involves building a hub for Sustainable Entrepreneurship for black and brown local entrepreneurship that will result in new companies in Marin County seeking to create jobs, in partnership with ESO Ventures and Workforce Innovation Labs.
  - Increasing online course offerings. The Business department is currently offering approximately 60% of their courses online/hybrid. This modality shift has resulted in increased enrollment, support for a broader set of students, and overall wider student reach.



# Social Sciences Discussions

- Ethnic Studies is now a high school graduation requirement, and the department is working with local high schools to develop pipelines based on dual enrollment opportunities.
- The department met with Professors Mihal and Crawford and Katie Mills of Research and Institutional Effectiveness to work on Program Review.
- Professor Turner created a video with Katie Mills to assist faculty with accurately interpreting the data.
- Rewrote 3 courses for category F (ETST 121, 151, and 154)



# Physical Sciences Discussions

- Chairs/Faculty of Math and Physical Sciences are engaged in conversations on how to coordinate student schedules to allow for better coordination/sequencing.
- Life and Earth Sciences and Physical Sciences Dept Chairs are engaged in conversations with Counseling Dept on how to more accurately advise science course sequencing.
- Student-center schedule process - Alignment/balancing of STEM courses for majors and GE to allow for faster time-to-degree pathways (including balance between virtual and in-person).

# Physical Sciences Discussions

- Launch of MESA program has brought focus to the following themes:
  - Students want to be in STEM fields but need resources to succeed in STEM pathways.
  - Engineering Program: It is abundantly clear that the engineering program is dependent on student enrollment in the early math and science pre-requisite classes. Paying attention to this on-ramp opens the way for more diverse student populations in later classes.
  - First-generation students are looking for research/internship experiences that don't require them to leave their homes/families in Marin County.
  - Summer internship program at COM through NASA over the last 3 summers has been well-received; there has been incremental interest from faculty to increase participation in hands-on learning.

# Behavioral Sciences Discussions

- Faculty members met as a department in February and March. The department is on track to complete Program Review this spring. Themes of discussions include:
- Overall success of enrollment being equal to or higher than institutional average can be attributed to:
  - Balanced offerings of online and face-to-face courses
  - Relevant coverage of materials related to current events
  - Caring and knowledgeable faculty who provide flexibility in nurturing their students' growth
- Faculty currently participating in several equity-minded initiatives, including Zero-Cost Textbook program, Rising Scholars program for formally incarcerated students, Student for Social Justice, Unloaded student group, and the Umoja Equity Institute to name a few.

# Life and Earth Sciences Discussions

- The full-time faculty of the Life and Earth Sciences department voted unanimously to switch back to a 2-semester sequence of our Major's biology to help students get through our Bio-major's series more efficiently and transfer sooner to a 4-year institution (decrease time to degree). Fall 2024 start date.
- The Life and Earth Science department finished PR last summer and identified that there was a high failure rate in BIOL 110/L, and that some groups did worst than Whites and Asians. As of this fall semester, the department has started meeting regularly to discuss strategies to increase success rates in Bio 110/L. They are still in the brain storming stage, but some ideas that have been tested and had some success are:
  - Having embedded tutors from diverse groups. This seems to be very inspiring and working.
  - Direct Instructor outreach



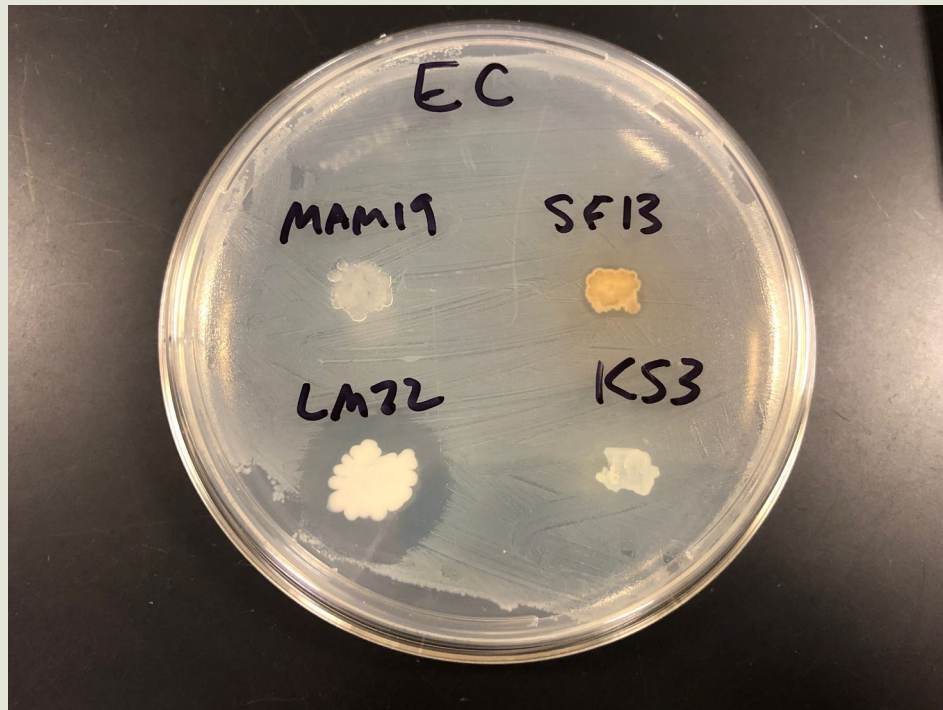
# Natural History Program

- One of COM's Natural History students was awarded the competitive Marine Mammal Stranding Response Internship for undergraduates through the Calif. Academy of Sciences which is funded by the John H. Prescott Marine Mammal Assistance Grant Program. Another Natural History student has become a council member of Marin Mycological Society and is assisting another council member compiling a list of regional fungi to share with the public.
- Both Audubon canyon ranch (ACR) and COM value using the lens of equity to structure their programs. ACR has operated successful day and overnight nature-based education programs where thousands of school children from urban, historically underserved communities are transported cost free to Martin Griffin Preserve (less than 2 miles from the Bolinas Field Station). ACR is taking a strategic look at how cultural relevancy of these programs can be enhanced through a partnership with COM. Leadership training and opportunities for COM students (and local high school students) to teach/guide at:
  - (1) the Martin Griffin Preserve with the generally public, elementary, and secondary school students visiting the Preserve
  - (2) the Science Field Station with groups of elementary and secondary school students.

# Tiny Earth Antibiotic Discovery Project

- College of Marin BIOL 240 students, in collaboration with researchers at University of Wisconsin, Madison, are engaging in scientific research in which they search for soil bacteria that produce natural antibiotics for further study.
- Antibiotic resistance is increasing all the time, which makes it imperative to discover new antibiotics. Antibiotic discovery through brute-force isolation and characterization of microbes is time consuming and expensive with no guarantee of success so most drug companies do not pursue this approach.
- By enlisting thousands of students in this research project, a large number of isolates can be screened. The students gain the experience of participating in a meaningful research project. The world, hopefully, will gain new antibiotics.
- <https://tinyearth.wisc.edu/>
- **Update:** In Fall 2022, the students identified 22 bacterial isolates that make antibiotics and 2 bacterial isolates that make antifungals. Emily Fox sent the isolates with antibiotic activity to the Tiny Earth Chemistry Lab at University of Wisconsin, Madison. The isolates with antifungal activity went to Dr. Clarissa Nobile at UC Merced.

# Tiny Earth Antibiotic Discovery Project



- Photo of one of our results, showing soil isolate "LM22" inhibiting the growth of E. coli. The clearing around LM22 is the zone of inhibition where E. coli can't grow because of the antibiotic LM22 is producing



## MESA Program – Certification of Intent for New Colleges

- The 2022-23 California State Budget Act established an unprecedented Mathematics, Engineering, Science Achievement (MESA) program allocation opportunity for all California community colleges.
- Participating colleges will receive a base award of at least \$280,000 each Fiscal Year (FY) for 5 years starting FY 2022-23 through FY 2026-27 with a projected term of 1/1/2023 – 7/31/2027 for an award total of a minimum of \$1,400,000 over the five years.



# Mathematics, Engineering, Science Achievement (MESA) Program

- Supports educationally and economically disadvantaged students majoring in Science, Technology, Engineering and Mathematics (STEM) fields who seek to transfer to a four-year institution.
- 13 MESA Components
- 8 MESA program objectives

# 13 MESA Components

- Administrative Component
- Student Center
- Academic Excellence Workshops and/or other High Effective Practices
- Academic Counseling
- MESA Orientation
- Student Support Services
- Student Outreach and Recruitment
- Student Clustering
- MESA Campus Council
- Professional Development
- Student Organizations
- Local Business and Industry Council
- Pro-Active Liaisons with MSP/MEP and similar program

## 8 MESA Program Objectives

- Increase the number of economically and educationally disadvantaged students pursuing degrees in mathematics, engineering, science, and technology who are eligible to transfer to a four-year institution.
- Implement efficient processes and practices and utilize existing college transfer centers to garner greater MESA student transfers to four-year institutions.
- Implement strategies to increase the rate at which MESA students are deemed transfer ready in science, technology, engineering, and mathematics (STEM) majors.
- Improve the academic performance of MESA students.

## 8 MESA Program Objectives Continued

- Increase the leadership skills and raise the educational expectations of MESA students.
- Strengthen relationships with educators, prospective employers in business and industry to establish student internships, scholarships and other career opportunities for MESA students.
- Establish partnerships with MESA Engineering Programs (MEP), MESA Schools Programs (MSP), California Alliance for Minority Participation, or similar programs in an effort to provide optimum student support services.
- Implement strategies to collaborate with campus programs such as Student Equity and Achievement (SB 860) and Student Success and Support Act (SB 1456) to leverage additional resources and opportunities for MESA students, and to ensure that MESA is integrated into the campus culture and infrastructure.



# Summary

- ✓ **Main Takeaways**
  - ✓ **What we do:** We offer various degrees, transfer pathways, and certificates
  - ✓ **Top Priorities:**
    - ✓ Increase the number of Degrees, Transfers, and Certificates
    - ✓ Decrease time to degree and transfer
    - ✓ Increase support and opportunities for our underrepresented BSTEM students
    - ✓ Build equity across our curriculum
    - ✓ Continuing to strengthen our community and high school partnerships in an effort to create a stronger pipeline of diverse students.

# Retirements (within next 5 years) and FT Faculty, PT Faculty, Staff, and Maintenance Requests

## Retirements

- Life and Earth Sciences: 1 retirement
- Behavioral Sciences: ~ 1 retirement
- Mathematics: ~ 3-5 retirements
- Political Science: 1 retirement
- Lab Tech: ~ 1 retirement

## Faculty Requests

- **Social Sciences: 1 FT Political Science/History for a Spring 2024 start date**
- Physics: 1 Full Time Faculty request (resignation replacement)
- Life and Earth: 1 Full Time Faculty request (retirement replacement) for a Fall 2024 start date
- **Ethnic Studies: PT Pool**
- Psychology: 1 Full Time Faculty (possible retirement replacement)
- Biology: PT Pool
- Geology: PT Pool

## Staff and Maintenance Requests

- **\*\*4 hours of admin support 9,407.00 dollars**
- **Steris Maintenance 6,000 dollars**
  
- **\*\* Down from 3 to less than 2 administrative assistants in Math, Science, and Business and workload has increased. The additional 4 hours will put the department administrative assistant to FT status.**

# Vans

■



## ■ Issues

- No Heat or A/C + Broken seals
- Alert oil change required light
- Alert low tire pressure light
- 75,000+ Miles, Over 10 years old

## ■ Request:

- Updated vehicles with built-in maintenance agreement
- 4 x 12-passenger vehicles + 1 x 7 passenger vehicle
- Could be rented, leased, or purchased





Questions?