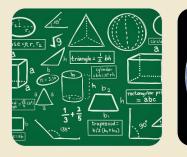
# Math, Sciences, and Business

Carol Hernández, EdD. (she/her/ella/they/them)

## College of Marin's Mission

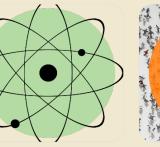
- College of Marin's commitment to educational excellence is rooted in providing equitable opportunities and fostering success for all members of our diverse community by offering:
  - preparation for transfer to four-year colleges and universities
  - associate degrees and certificates
  - career technical 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

ry Et ng ony er

Economics Ethnic Studies History Political Sciences

Anthropology Sociology Psychology Behavioral Sciences Business Real Estate Hospitality Mathematics Engineering Science Achievement Program

# Area Departments (Faculty and Staff)

Math	Life and Earth	Physical Sciences	Social Sciences	Behavioral Sciences	Business	MESA
<ul> <li>8 FT</li> <li>9 PT</li> <li>2 Math Instructional Specialist</li> <li>2 Math Tutors</li> <li>1 Math Lab Coordinator</li> </ul>	<ul> <li>8 FT</li> <li>22 PT</li> <li>3 Laboratory Technicians</li> </ul>	<ul> <li>6 FT</li> <li>20 PT</li> <li>2 Laboratory Technicians</li> </ul>	• 3 FT • 28 PT	• 6 FT • 9 PT	• 3 FT • 29 PT	<ul> <li>1 Manager</li> <li>1 Admin</li> <li>6 Student Employees</li> </ul>

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

Dean

**MESA Director** 

34 Full Time Faculty

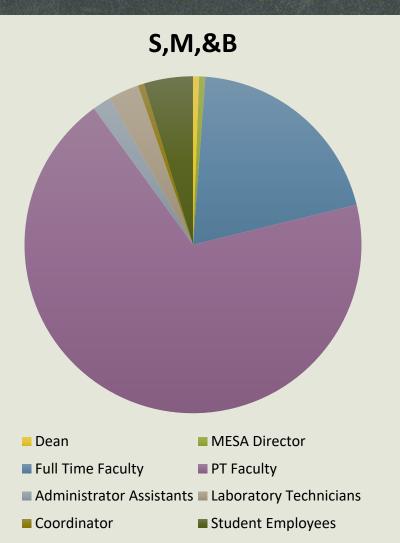
117 Part Time Faculty (ETUM, Pool members)

3 Administrative Assistants

5 Laboratory Technicians

One Coordinator

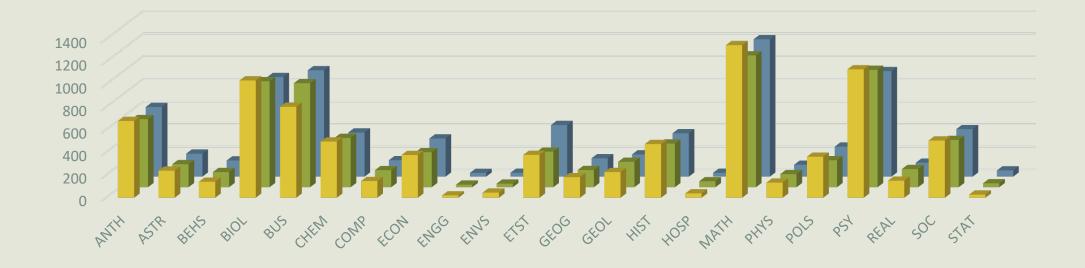
8 Student Workers



# Instructional Units/Non-Instructional Units

Department	Instructional	Non-Instructional
Behavioral Sciences	279	44
Social Sciences	208	20
Life and Earth	358	23
Math	330	31
Physical Sciences	369	75
Business	237	15

# Unduplicated Headcount by Discipline 2020-2021 through 2022-2023



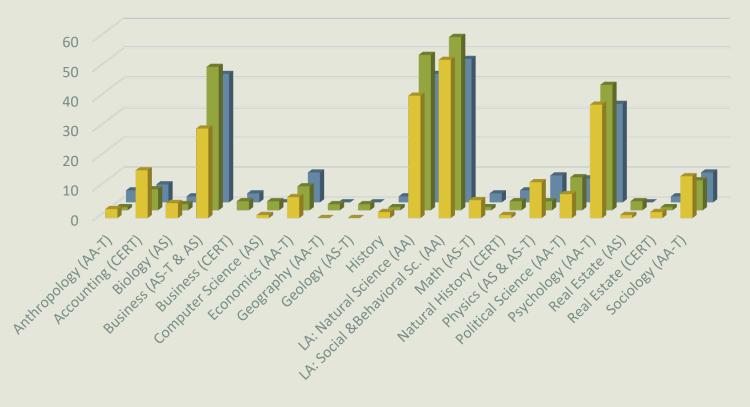
**2020-21 2021-22 2022-23** 

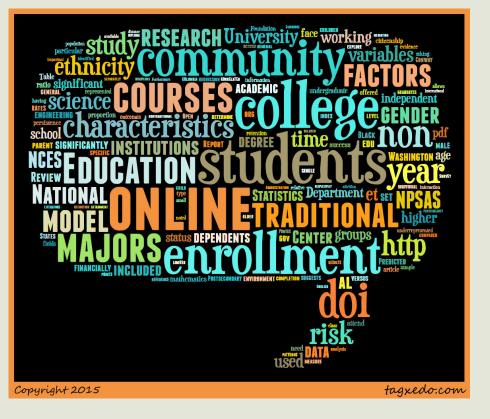
# Successful Course Completion by Discipline 2020-2021 through 2022-2023



2020-21 2021-22 2022-23

## Awards 2020-2021 through 2022-2023





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# Awards 2020-2021 through 2022-2023

Degrees	21	22	23
Anthropology (AA-T)	3	1	4
Accounting (CERT)	16	7	6
Biology (AS)	5	2	2
Business (AS-T & AS)	30	48	43
Computer Science (AS)	1	3	0
Economics (AA-T)	7	8	10
Geography (AA-T)	0	2	0
Geology (AS-T)	0	2	0
History	2	1	2
LA: Natural Science (AA)	41	52	43
LA: Social & Behavioral Sc. (AA)	53	58	48
Math (AS-T)	6	1	3
Natural History (CERT)	1	3	4
Physics (AS & AS-T)	12	3	9
Political Science (AA-T)	8	11	8
Psychology (AA-T)	38	42	33
Real Estate (AS & CERT)	3	4	2



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# Students Transferred to a 4-year Institution 2020-2023

Last COM Major	2020-21	2021-22	2022-23	3-YEAR TOTAL
ANTHROPOLOGY TRANSFER	3	4	2	9
APPLIED ACCOUNTING	1	0	0	1
BIOLOGY	25	28	20	73
<b>BUSINESS ADMIN TRANSFER</b>	35	38	48	121
<b>BUSINESS ADMINISTRATION</b>	7	4	3	14
BUSINESS, GENERAL	7	5	9	21
COMPUTER SCIENCE	16	9	9	34
ECONOMICS TRANSFER	14	13	12	39
GEOGRAPHY TRANSFER	1	2	0	3
GEOLOGY TRANSFER	0	0	2	2
History	5	6	6	17
LA: SOCIAL & BEHAVIORAL SC.	14	16	10	40
LA: NATURAL SCIENCE	17	9	14	40
MATHEMATICS TRANSFER	6	3	5	14
PHYSICAL SCIENCE	4	9	6	19
PHYSICS TRANSFER	4	7	4	15
POLITICAL SCIENCE	14	17	13	44
PSYCHOLOGY	46	50	47	143
REAL ESTATE	0	1	1	2
SOCIOLOGY	26	16	15	57
TOTAL	245	237	226	708

\*A student transfers to a four-year institution if they have

1.Earned at least 12 units at COM.

2.Were enrolled at COM in the academic year immediately preceding their first academic year of transfer.

3.Had not obtained a bachelor's degree or higher at time of transfer.

4. Had no prior transfers meeting the above three requirements.



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# **Budget Overview**

Department	Business	Social Sciences	Math	Life and Earth Sciences	Physical Sciences	Behavioral Sciences	Math and Sciences
Non- Discretionary	\$726,900.00	\$833,431.00	\$1,711,714.00	\$1,711,540.00	\$1,526,172.00	\$1,200,023.00	\$517,241.00
Discretionary	\$352,836.14	\$447,115.00	\$542,055.00	\$549,007.35	\$1,427,760.07	\$335,455.00	\$13,425.00

# **Program Discussions & Directions**

#### Math Discussions

- Program Review: The AB705/AB1705 and equity in the classroom drive department discussions and goal setting. The department decided to engage with the UMOJA community. In coordination with the math chair and UMOJA faculty and coordinator, Maula Allen created a project funded by the AB1705 funds, where she serves as a tutor and a mentor.
- The Department plans on expanding DE offerings due to strong student demand over the past few semesters.
- Constantly adjusting to a new landscape: COVID, AB705, and AB1705. The department does not simply comply with the new regulations. They are also trying to redesign curriculum for student success, with special emphasis on improving throughput rates.

#### **Supports EMP Focus Areas Equity and Instructional Programs**

#### Math Department Response to GRIT Recommendations

- Discussions in department meetings emphasize fostering a sense of belonging to our diverse student population and creating a welcoming syllabus.
- Universal Design: The Math Department invited the chair of the English department to get information and inspiration on universal design for Math classes.
- Developed a new course, Math 102, to serve several purposes. This class is a low 3-unit course, transferable to UC, and designed to meet the GE Quantitative Reasoning requirement. Math 102 is also a possible entry point to STEM, and a possible bridge to STEM for underserved groups who don't come with the confidence, background, or interest to choose STEM.
- GRIT recommended monitoring students who drop before census. Math chair asked Holley in January 2023 for a way to look at daily enrollment. PRIE had already started tracking these numbers, so data has been collected since that time.

#### **Business Department Discussions**

- Collaboration with Counseling to revise the AS-General degree, to make it more inviting and attractive to student athletes (who, anecdotally, represent the largest single common denominator of our B/AA students in BUS classes).
- Development of BUS 163 Personal Finance as a tool of social justice, with an intentional and deliberate examination of systemic racism and inequity in our banking and finance industries
- Commitment to embracing DE to over 60% of our offerings, as the contemporary preference over the traditional evening and weekend class, whilst balancing the commitment to always offer our core classes in-person as well.
- Increase in ZTC courses
- Entrepreneurial Mindset as a tool of empowerment for underserved and minority groups (BUS 128)
- Summer Academy participation
- MCOE partnership to serve foster and underserved HS youth
- Continued contribution to our HUM 101 program
- Commitment to equipping our BUS faculty to deliver excellence in multiple delivery modalities (ACUE)
- Collaboration with Counseling to identify a BUS Department Lead Counselor (Kristin Perrone) to ensure excellence in the Counseling experience for our BUS majors

#### **Business Department continued**

- BUS is currently leveraging their core value of "Business As A Force For Good" in collaboration with CTE to bring the black-and-brown-entrepreneur incubator, ESO Ventures, to the College of Marin, which will train, mentor, and support local entrepreneurs to start businesses that will create jobs in our local communities. Of special excitement is our commitment to support ESO Ventures' first Spanish cohort, directly supporting entrepreneurs with the Canal Alliance.
- We continue to expand our work with local high schools, which now include dual enrollment courses at Terra Linda, Marin Oaks, and Marin Continuation School.
- In the big picture, the Business department believes it can grow our offering to students with an additional focus on Leadership as a topic of study. The Business department plans to offer a section of BUS 124 Human Relations in Business as a start, as we seek to leverage our internal competencies to help our transfer and "come back" students prepare for leadership in their present and future careers.

#### **Social Sciences Discussions**

- The department is undergoing a review of all Social Sciences offerings with a focus on establishing a master scheduling template for all disciplines in the department; Economics, Ethnic Studies, Political Sciences, and History.
- The department is completing a FT hire in Political Science and History.
- The department is offering additional Ethnic Studies courses that fulfill new state requirements in category "F." State funding has allowed the department to undergo a review of Ethnic Studies courses with an emphasis on ensuring that the Ethnic Studies area is aligned with COM's Educational Master Plan equity goals and objectives.

#### **Physical Sciences Discussions**

- The MESA (Math, Engineering, Science Achievement) program (5 year grant beginning in Spring 2023) is expanding the pipeline of first-generation STEM majors coming to COM, and beginning to show signs of increases in STEM course enrollment. Offering the full 6 semester sequence of engineering courses at COM is an equity-driven decision based on providing access to engineering prerequisites for all students, regardless of economic considerations or initial course enrollments.
- Calc-based Physics (207abc) is part of the pipeline for Engineering and STEM majors. Fall 2023 and Spring 2024 waitlists are now normal for Physics courses.
- Spring 2024 Physics 207A has 30 students (course max is 24), even though it's offered both fall and spring.
- Recommendation: New Full-time Faculty Hire in Physics/Astronomy + Engineering: Minimum Qualifications: Physics/Astronomy have the same minimum qualifications. It is expected that anyone with a Masters or Doctorate in Engineering would fulfill the minimum qualifications for both Physics/Astronomy and Engineering.
- There is a strong need for physics/engineering faculty to support the popular Arduino-programming summer research internship.

#### **Supports EMP Focus Area Instructional Programs**

#### **Behavioral Sciences Discussions**

- The mission of the Behavioral Sciences Department is to provide high-quality education and training to students in support of their educational goals. The dedicated faculty provide opportunities in applied research and field experiences and seek to intentionally include the lived experiences of our students.
- Engagement with the Marin and broader communities enables us to continually utilize equity minded approaches to advance our understanding of human behavior in global society.

Supports EMP Focus Areas Equity, Instructional Programs, Student Access and Success

#### **Behavioral Sciences Discussions Continued**

- Program Review discussions were completed in Fall 2023, with eLumen completion in March 2024. The submission is currently under review.
- There was consistent theme in reviewing the data, as we noted that our Black and Latinx students gravitated to our courses at a higher rate. For example, enrollment in Cultural Anthropology among Black and Latinx students is far greater than in Biological/Physical Anthropology, which is in line with representation in STEM majors. There is potential to leverage support for enrollment through our MESA program.
- Courses that consistently have higher enrollment, like BEHS 103 Human Sexuality and BEHS/SOC 130 Race and Ethnicity, may be in large part due to intentional decisions on curriculum and classroom practices where students are able to see their cultural background represented in the classroom with student-centered approaches that work in congruence with student development.

#### Supports EMP Focus Areas Equity, Instructional Programs, Student Access and Success

#### **Behavioral Sciences Discussions Continued**

- Discussions of creating experiential opportunities to enhance student learning through the creation of research labs. This includes a lab specifically for ANTH 110 (archeology), and a research lab for the Behavioral Sciences. There is an opportunity to create a defined research lab for this work to include: students interested in future careers in the behavioral sciences, post-baccalaureate students completing specific courses in preparation for graduate school applications, and career-bound students interested in advancing their experiences in service learning and workforce placements. Continued brainstorming with an eventual proposal to take place 2024-25
- Creation of the Rising Scholars Program creates new possibilities for the alignment of services for students, including curriculum development, and support of work at the Juvenile Justice Center
- Upcoming opportunities to collaborate with Psychological Services and Career Technical Education to support a state-sponsored initiative with HCAI to support the upcoming Certified Wellness Coach positions for AA degree holders
- Leverage support and alignment with Equity in Mental Health programming (collaboration of UEI and Psychological Services) to include potential sponsorship of the annual Equity in Mental Health Symposium

#### Supports EMP Focus Areas Equity, Instructional Programs, Student Access and Success

#### Life and Earth Sciences Discussions

The Life and Earth Sciences department are doing the following to address program review and GRIT recommendation, which aims to increase student success.

- Participating in the Culturally Responsive Pedagogy & Practices Faculty Professional Development Certification Program Pilot Cohort
- ✓ Using embedded tutors in their classes
- ✓ Holding equity in the classroom pedagogy FLEX sessions
- ✓ Developing OER lab manuals and the microscope accessibility project library
- Designing ZTC (Zero Textbook Cost) or LTP (Library Textbook Program) courses which reduces cost to students
- ✓ Highlighting scientists of diverse backgrounds in our courses
- Developing resources so students who need to refresh pre-requisites can do so "just in time" in the class they are currently in
- Revamping the BIOL 99 (now BIOL 102) course to get students better prepared to succeed in our STEM courses
- ✓ Working with the MESA coordinator to help support the MESA program.

#### **Supports EMP Focus Areas Equity and Instructional Programs**

#### Life and Earth Sciences Discussions Continued

The Life and Earth Sciences department chair has finished the CORs for the new 2-semester Major's Biology sequence, and it has been approved by the curriculum committee and submitted to our Articulation and Curriculum Analyst. It will be submitted to UC/CSU for final articulation approval in the Fall. The department hopes to be able to offer the new 2-semester sequence starting Fall 2025. A switch from a 3-semester to a 2-semester Major's Biology series, will help our students get through our Bio-major's series more efficiently and transfer sooner to a 4-year institution. It may also allow us to start offering an ADT degree in Biology again.

One of COM's Natural History students was awarded the competitive Marine Mammal Stranding Response Internship for undergraduates through the California Academy of Sciences, which is funded by the John H. Prescott Marine Mammal Assistance Grant Program. This January, another Natural History student landed a much-coveted job with the California Department of Fish and Wildlife. She reported that it was the natural history courses that she completed that made her competitive enough to be hired.

#### **Supports EMP Focus Areas Equity and Instructional Programs**

#### Natural History Program

- Community college courses in Natural History provide the skills that lead to well-paying, stable careers for those
  in our community.
- The type of work you can get with this certification and some experience pays 100k+ for a job in the sciences that does not require a bachelor's degree.
- The Natural History Program is the only academic program offered at COM that can be completed nights and weekends. This gives students who have full-time Monday-Friday 8–5 jobs the opportunity to complete a certificate/course work that will lead to good paying employment.
- The Natural History Program has given reentry women, who have been traditionally underserved in the sciences, the opportunity to complete a science program and find employment opportunities in a way that circumvents many of the barriers that still exist in many bachelor's degree-granting institutions.
- Docents that complete Natural History courses use their knowledge to share their natural science passion and knowledge with historically excluded youth. This opportunity nourishes their interests in the Life Sciences and increases the likelihood that they will be interested in pursuing a career in the sciences.

#### Supports EMP Focus Areas Equity

# **HAESA**

# Mathematics, Engineering, Science Achievement Program

#### MESA Program Overview



- Supports educationally and economically disadvantaged students majoring in STEM fields who seek to transfer to a four-year institution.
- 13 MESA Components
- 8 MESA Objectives

## 13 MESA Components

- Administrative Component
- Student Center
- Academic Excellence Workshops
- Academic Counseling
- MESA Orientation
- Student Support Services
- Student Outreach and Recruitment



## 13 MESA Components

- Student Clustering
- Professional Development
- Student Organizations
- MESA Campus Council Spring 2024
- Local Business and Industry Council Spring 2024
- Pro-Active Liaisons with MSP/MEP



#### Select MESA Program Objectives

- Improve the academic performance of MESA students
- Implement strategies to increase the rate at which MESA students are deemed transfer ready STEM majors
- Increase the leadership skills and raise the educational expectations of MESA students
- Increase the number of economically and educationally disadvantaged students pursuing STEM degrees and eligible to transfer
- Implement efficient processes and practices and utilize existing college transfer centers to garner greater MESA student transfers to four-year institutions.

# MESA Program at College of Marin

Fall 2023	Spring 2024
60 enrolled students	80 enrolled students
Many auxiliary students acces	ss services but are not eligible
Tutoring in 12 STEM classes	Tutoring in 16 STEM classes
4,400 student visits to MESA Center	6,000 projected student visits to MESA Center
Participation in 45 events	Participation in 26 events
Events included: Buck Institute Career Panel, Resume workshop and clinic, PIQ workshop and clinic, Internship workshop, STEM Study Party, Open House etc.	Events included: Student Retreat, New Member Orientation, Life Sciences faculty lunch, Scholarship application workshop and clinic, Career networking night, STEM Study Party, etc

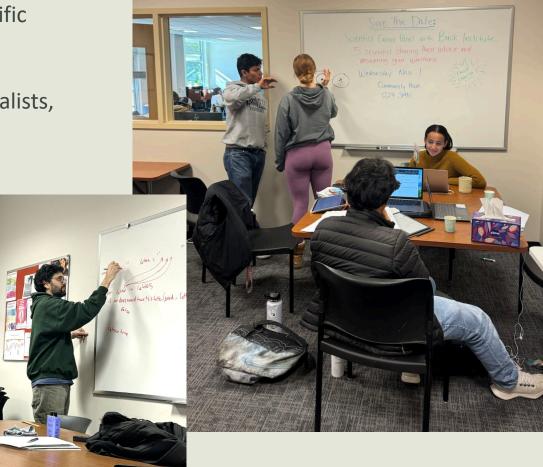
# MESA Program at College of Marin: Power Hour Study Groups for 6 Gateway STEM Classes

In Spring 2024, MESA is offering weekly study groups for students in specific classes.

These small groups are facilitated by faculty members, instructional specialists, and peer tutors and synced with current course material.

#### **Benefits:**

- Create cohort of peers to study with for future classes
- Dedicated time on task!
- Improve study habits
- Direct access to expert help
- Grow comfortable tackling complex problems



# MESA Program at College of Marin: Field Trips to Foster Science Identity

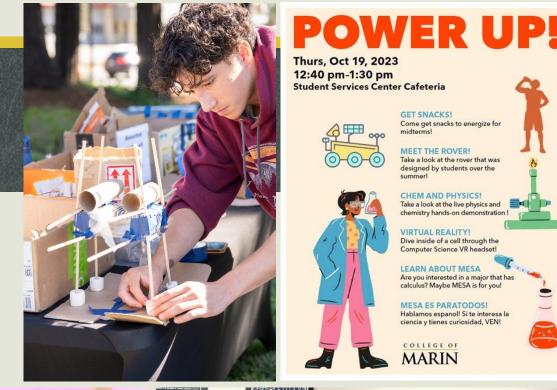
- Conference for Engineering Diversity
- STEM Transfer Day at UC Davis
- Silicon Valley Women in Engineering Conference
- Four-day tour of southern California universities
- Cal Hacks, San Francisco Hacks
- Sonoma State tour & MESA social





# MESA Program at College of Marin: Campus and Community Outreach

- Student panels for COMPASS programs at San Rafael, Tam, and Terra Linda High Schools
- ESL student panels for Terra Linda and San Rafael
- Hands-on chemistry demonstration for Terra Linda High School
- Participation in Summer Bridge
- Power Up! bilingual campus outreach event
- Club Fest, Internship Fair, Class Fest, It's Fall Y'all, Spring Fling, etc.
- College Success Saturday





# MESA Program Budget Overview

#### 2024-2025

ltem	Budget
Instructional Salaries: Counselor & Faculty Sponsor	\$58,700
Staff Salaries: Director & Admin	\$154,500
Student Salaries: Tutors & Mentors	\$20,600
Benefits	\$102,000
Food, supplies, and materials	\$13,000
Conference travel, college trips, dues, and recruitment	\$17,000
Student stipends	\$5,000
Total	\$370,800

# **Resource Requests**

## MESA Program Budget Request

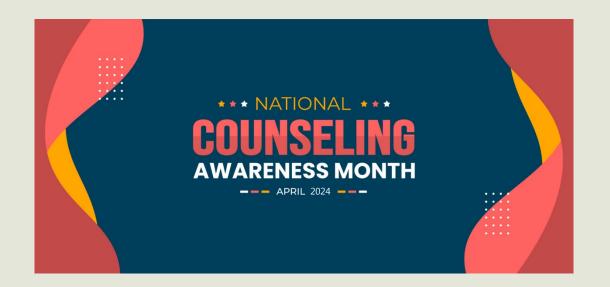
#### New Information from CCCCO:

- Want to see institutional buy-in by campuses funding some salaries
- "Any MESA budgets that spend more than 50% on salaries will be flagged as not invested in supporting firstgen/low income/underrepresented students and that this will affect additional/future funding"
- At this time, 85% of our MESA budget is for salaries and benefits
  - Adjusting faculty sponsor model to also address this

## MESA Program Budget Request

#### **Funding for MESA Counselor**

- 6 TU in Fall
- 6 TU in Spring
- 3 TU in Summer



#### **MESA Counselor Role**

- Drop-in counseling hours in MESA Center
- Scheduled appointments
- Tracking and targeted outreach to struggling students
- Outreach presentations
- Developing STEM Transition Course

#### When not with students:

- Planning Spring Break College Tour trip
- Contributing to emotional intelligence training for student employees
- Contributing to development of MESA Peer Mentoring program
- Writing internship and transfer letters of recommendation

## Retirements and FT Faculty, Staff, and Resource Requests

#### Retirements

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

#### Faculty Requests

- Physics/Astronomy + Engineering: 1 Full Time Faculty request (resignation replacement)
- Life and Earth: 1 Full Time Faculty request (retirement replacement)
- Psychology: 1 Full Time Faculty (retirement replacement)

#### Unit Requests

- 4 units: BUS 112 DE
- 4.5 units every other Fall semester for the NH program
- Increase of Comp Sci TU by 5.49 or 10.98 TU per fall/spring and summer semester.

#### Other Requests

- 10-12 hours a week increase in the Museum Lab Tech hours to support Geography and Geology
- 25,000 repair of the greenhouse
- Space for Rising Scholars Program, similar to space designated for learning communities.

#### **Physical Sciences Request**

- Recommendation: Increase of Comp Sci TU by 5.49 or 10.98 TU per fall/spring and summer semester.
- <u>Rationale:</u> Open evening and/or summer <u>Intro to C++</u> and/or <u>Java</u> course (5.49 TU or 10.98 TU)
- There are currently ZERO Intro to Computer Science courses (C++, Python or Java) offered in the evenings (this means very few full-time working or high school students can enroll) or summers
- Resources: Availability of TWO computer labs (SMN 130+132) available for most of the week and all summer
- Full-time Comp Sci instructor is poised to grow the department. (Course modules have been built for intro classes that would open the door for adjunct instructors to teach the courses aligned with the existing full-time instructor. Students currently turned away for lack of sections and seats, not lack of interest.
- Adjunct Hiring pool taking place in Spring 2024 expecting addition of 2-3 qualified candidates
- Intro C++ (COMP 130) is always overloaded
  - Fall 2023 Data: 13 extra students on Day 1, with +7 accepted into the course.
  - Spring 2024 Data (FLEX Week data)
    - COMP 130 Intro C++ is +5 on the waitlist
    - COMP 138 Intro Python is +2 on the waitlist
    - COMP 235 Adv C++ is +6 on the waitlist
    - COMP 135 Intro Java is -2 (no waitlist yet, perhaps lack of Adv Java is scaring students away?)

#### Life and Earth Sciences Lab Tech Request

- Materials are used both for lectures and labs (e.g. typical and rare samples are passed around in lectures and are the subject of activities in labs).
- In the absence of this position, currently both instructors are doing the work of a lab tech/museum curator in addition to the duties of full-time teaching.
- In addition to teaching full-time, the instructors are also the de facto museum curators of the vast collection of earth sciences materials (maps, minerals, rocks, fossils, and equipment).
- The instructors are in charge of setting up labs (setups for geology labs can take many hours), while in Microbiology this is done by lab techs.
- There is zero assistance for the Earth Science portion of Life & Earth Sciences.

## Life and Earth Sciences Lab Tech Request continued

- Lab Tech support will:
  - Promote positive experiences for a variety of diverse learning styles, especially tactile and kinesthetic learners.
  - Ensure equal access for all students to COM's significant earth science resources.
  - Promote lab and lecture spaces where all our diverse students can engage in inquirybased science on an equal footing.
  - Provide science labs that offer hands-on experiences that prepare students for realworld challenges.

#### Life and Earth Sciences Department Requests continued

- Greenhouse repair: This sum is for purchasing computer controls for the temperature and irrigation systems. The greenhouse is used to maintain plants that students in BIOL 110L, BIOL 112B and BIOL 138 use (approximately 100 students/year).
- The Life and Earth Sciences department would like to request one of the "portables" be converted to a BIOL 110 lab or alternatively enclose the area of SMN by the museum, so that the current BIOL 110 lab (SMN 112) can be used for Physiology and other lab classes we have (Natural History labs, Major's Biology swing lab space).
- By separating Microbiology and Physiology, it will allow growth of the Allied health program so that we could either add more sections of Physiology and Microbiology or offer those classes on other days than they are now scheduled.
- The Natural History Program would like to get more Internet exposure so the public and interested parties can easily find information about the Natural History Program when googling for it.

#### 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
    - $\checkmark$ 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.





### Questions?