Unit Operational Plan

Due March 22nd, 2024

2024-2025

Name of Unit: Mathematics, Engineering, and Physical Sciences (MEP) – Shelby Campus

Mission Statement (for the unit): The purpose of the Mathematics, Engineering, and Physical Sciences Department is to offer a broad range of courses that transfer to baccalaureate degree-granting institutions, service the career programs of the college, and prepare students for college-level mathematics courses while upholding the mission of Jefferson State Community College.

Unit Goals	Unit Outcome	Institution Strategic Plan	Fundamental Principles
Maintain up to date curricula for all college-level courses meeting AGSC transfer requirements and as prescribed by ACCS.	1. Provide and monitor Astronomy, Chemistry, Mathematics, Physical Science, and Physics courses that emphasize critical thinking and analysis and are transferable to institutions of higher learning.	**II.A.** Increase F2F retention rate. **II.B.** Support the continued growth and enrollment of Dual Enrollment students and programs. **II.E.** Increase the number of awards and credentials earned by students.	**FP 2.1** University parallel degree programs that allow students to make a successful transition to senior colleges or universities. **FP 2.3** General education courses that encourage the intellectual, civic, social, and physical development of students.
Continue to monitor and improve SLO data collection methodologies and implement innovative teaching strategies based on SLO findings.	1. Provide and monitor Astronomy, Chemistry, Mathematics, Physical Science, and Physics courses that emphasize critical thinking and analysis and are transferable to institutions of higher learning.	**II.A.** Increase F2F retention rate. **II.B.** Support the continued growth and enrollment of Dual Enrollment students and programs. **II.E.** Increase the number of awards and credentials earned by students.	**FP 2.1** University parallel degree programs that allow students to make a successful transition to senior colleges or universities. **FP 2.3** General education courses that encourage the intellectual, civic, social, and physical development of students. **FP 2.5** Dual enrollment programs that allow qualified high school students to earn credits for a high school diploma and/or a postsecondary degree. **FP 4.4** Continual improvement through on-going evaluation and advocacy of innovation in teaching and learning.

Continue to monitor and improve SLO data collection methodologies and implement innovative teaching strategies based on SLO findings.	[2.]Provide and monitor developmental mathematics courses and courses relevant to the career and professional degree programs of the college.	**II.A.** Increase F2F retention rate. **II.B.** Support the continued growth and enrollment of Dual Enrollment students and programs. **II.E.** Increase the number of awards and credentials earned by students.	**FP 2.1** University parallel degree programs that allow students to make a successful transition to senior colleges or universities. **FP 2.2** Career and professional associate degree programs that integrate general and career-specific education and prepare students for immediate employment. **FP 2.3** General education courses that encourage the intellectual, civic, social, and physical development of students. **FP 2.4** Certificate programs and other learning opportunities that enable students to acquire specific training to prepare for employment or advancement in jobs requiring skilled employees. **FP 4.4** Continual improvement through on-going evaluation and advocacy of innovation in teaching and learning.
Continue to provide on campus and online tutoring for developmental math students.	[2.]Provide and monitor developmental mathematics courses and courses relevant to the career and professional degree programs of the college.	**II.A.** Increase the F2F retention rate. **II.D.** Increase and enhance support for adult learners. **II.E.** Increase the number of awards and credentials earned by students.	**FP 1.3** Collegiate and developmental education designed to meet the needs and abilities of the diversity of people within the college service area. **FP 3.2** Physical facilities, technological resources and other resources that promote learning. **FP 3.4** Student academic, developmental, and support services that assist students in achieving their goals.
Ensure a quality learning environment for CHM lab students by maintaining adequate chemicals, safety equipment, supplies, and glassware.	[3.]Provide and maintain quality teaching and learning environments for students and faculty in classrooms, laboratories, and offices.	**II.A.** Increase the F2F retention rate. **II.B.** Support the continued growth and enrollment of Dual Enrollment students and programs. **II.D.** Increase and enhance support for adult learners.	**FP 2.1** University parallel degree programs that allow students to make a successful transition to senior colleges or universities. **FP 2.2** Career and professional associate degree programs that integrate general and career-specific education and

		II.E. Increase the number of awards and credentials earned by students.	prepare students for immediate employment. **FP 2.3** General education courses that encourage the intellectual, civic, social, and physical development of students. **FP 3.2** Physical facilities, technological resources and other resources that promote learning.
Update all classroom furniture in MSB 126 and MSB 127.	[3.] Provide and maintain quality teaching and learning environments for students and faculty in classrooms, laboratories, and offices.	**III.B.** Continue to improve aesthetics and infrastructure at all campuses.	**FP 3.1** A friendly and stimulating atmosphere that is conducive to both formal and informal learning and to cross-cultural awareness. **FP 3.2** Physical facilities, technological resources and other resources that promote learning. **FP 4.3** A working environment that supports employee wellness and job satisfaction.
Purchase equipment necessary for essential labs in PHS and AST courses	[3.] Provide and maintain quality teaching and learning environments for students and faculty in classrooms, laboratories, and offices.	**II.A.** Increase the F2F retention rate. **II.B.** Support the continued growth and enrollment of Dual Enrollment students and programs. **II.D.** Increase and enhance support for adult learners. **II.E.** Increase the number of awards and credentials earned by students.	**FP 3.1** A friendly and stimulating atmosphere that is conducive to both formal and informal learning and to cross-cultural awareness. **FP 3.2** Physical facilities, technological resources and other resources that promote learning. **FP 4.3** A working environment that supports employee wellness and job satisfaction.
Secure funds for Shelby Math faculty to attend the AMATYC (American Mathematical Association of Two-Year Colleges) conference in Atlanta.	[4.] Enhance instruction to provide a positive learning experience for all students by employing the most up-to-date classroom technology and offering opportunities for faculty professional development.	**IV.B.** Increase opportunities for professional development for all employees.	**FP 4.2** Professional development experiences that enable personnel to maintain currency in their respective fields, increase their awareness and use of alternative methods of meeting the needs of a diverse student population, and develop innovative approaches to fulfilling their roles in the institution. **FP 4.3** A working environment that supports employee wellness and job satisfaction.

			FP 4.4 Continual improvement through on-going evaluation and advocacy of innovation in teaching and learning.
Secure emergency funds for the purpose of replacing faculty computers\classroom computers in the event of an unexpected failure.	[4.]Enhance instruction to provide a positive learning experience for all students by employing the most up-to-date classroom technology and offering opportunities for faculty professional development.	**III.B.** Continue to improve aesthetics and infrastructure at all campuses.	**FP 3.2** Physical facilities, technological resources and other resources that promote learning. **FP 4.3** A working environment that supports employee wellness and job satisfaction.
Successfully transition from Blackboard LMS to Canvas.	[4.]Enhance instruction to provide a positive learning experience for all students by employing the most up-to-date classroom technology and offering opportunities for faculty professional development.	**I.F.** Implement and support the Canvas Learning Management System and evaluate the quality of online learning.	**FP 2.6** Distance learning programs and classes that promote accessibility through new technologies. **FP 3.5** Necessary financial support, administrative structure, and institutional support services that facilitate the college's operation.
Successfully transition the delivery of all MTH098 – MTH113 courses to the mastery-based ALEKS learning system from the traditional WebAssign homework assignment system	[5.]Provide preparation to students for college-level courses that depend on a knowledge of mathematics.	**II.A.** Increase the F2F retention rate. **II.B.** Support the continued growth and enrollment of Dual Enrollment students and programs. **II.D.** Increase and enhance support for adult learners. **II.E.** Increase the number of awards and credentials earned by students.	**FP 3.2** Physical facilities, technological resources and other resources that promote learning. **FP 4.4** Continual improvement through on-going evaluation and advocacy of innovation in teaching and learning.

Unit Plan for 2024 - 2025

1. **Goals –** The activities through which the outcome will be achieved. Each Unit Outcome should have at least one goal.
2. **Method of Assessment –** How the unit will determine if the objective has been met.
3. **Funding/Rationale –** Provide an estimate of the cost of achieving the objective. Also, include a description of how these funds will be used to accomplish the objective.

Goal	Assessment	Funding/Rationale
Maintain up to date curricula for all college-level courses meeting AGSC transfer requirements and as prescribed by ACCS.	Faculty designees will participate in ACCS curriculum review meetings and faculty will continue to teach course material as prescribed by ACCS outlines.	**NA**
Continue to monitor and improve SLO data collection methodologies and implement innovative teaching strategies based on SLO findings.	Faculty will assess and attempt to improve student learning by collecting SLO data, interpreting results, and implementing strategies for improvement	**NA**
Continue to provide on campus tutoring for developmental math students.	The Chair will continue to hire and support the on-campus Shelby math tutor and the Virtual Math Lab.	**NA** – Funding provided for part-time instructor(s) by the college.
Ensure a quality learning environment for CHM lab students by maintaining adequate chemicals, safety equipment and supplies, and glassware.	Inventory of necessary chemicals, safety supplies, and glassware will be monitored regularly to determine needs.	**$6,000.00**
Update classroom furniture in MSB 126 and MSB 127.	Monitor the purchase, delivery, and installation of the furniture and equipment and obtain feedback from faculty and students.	**$17,500.00** – This is a follow-up request from 2023-2024. Every classroom in MSB has already been updated with new furniture except MSB 126 and 127.
Purchase equipment necessary for essential labs in PHS and AST courses	An inventory of necessary lab equipment has been taken and is found lacking. We will Monitor the purchase and delivery of the lab equipment and will request feedback from PHS and AST instructors.	**$2,200.00** – Currently, only one rock kit is available for the PHS labs. Six more rock kits would make the labs more manageable and effective. We began offering AST courses again at the Shelby Campus in 2022. The instructor reports and the chair finds that the college does not have the necessary equipment to effectively deliver the course content and the labs.

Secure funds for Math faculty to attend the AMATYC (American Mathematical Association of Two-Year Colleges) conference in Atlanta.	Faculty were surveyed on their interest in attending the conference and the potential value added by attending. The faculty unanimously voted in favor of the opportunity.	**$5,000.00** – funding for five faculty to attend the AMATYC Conference in Atlanta. This will pay for lodging for three nights ($3,575) and per diem expense for four days ($1,295). The conference registration fee will be paid from the faculty's IAP funds and the faculty will travel to the conference in the JSCC van.
Secure emergency funds for the purpose of replacing faculty computers\classroom computers in the event of an unexpected failure.	Continually monitor instructor and classroom technology. If needed, monitor the purchase, delivery, and installation of new technology should existing technology fail.	**$3,500.00**
Successfully transition from Blackboard LMS to Canvas.	Ensure all full-time and part-time faculty receive Canvas implementation training.	**NA** – Training provided by Instructure Canvas and the college.
Successfully transition the delivery of all MTH098 – MTH113 courses to the mastery-based ALEKS learning system from the traditional WebAssign homework assignment system	Courses were offered using the current program (WebAssign) and the ALEKS mastery-based learning program. Instructors agree that the ALEKS program is delivering better results than the current program and agree to offer MTH 098 – MTH 113 courses using this program in hopes of improving student learning. Courses will be transitioned over the next year and progress will be monitored regularly.	**NA**
	Total Requested:	**$34,200.00**