

Southwest Tennessee Community College

2024 Governor's Investment in Technical Education (GIVE 3.0)

Program Title: Science Exploration: Pathways to Careers in Biotechnology


Southwest Tennessee Community College IN PARTNERSHIP WITH:

1. Greater Memphis Chamber
2. Memphis and Shelby County Schools
3. Children's GMP
4. Transnetyx

Project Director:
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Funding requested:

\$ 1,237,040

DocuSigned by:

X 2304D4E473334CF
President of Higher Education
(Fiscal Agent)

DocuSigned by:

X 9E530C8DF189479...
Project Director (Lead Entity)

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Abstract/Project Summary

Opportunities in the biotechnology workforce are overlooked by young students in favor of more popular career tracts despite anticipated expansion of the local biological technician job market through 2030. Demand for workforce ready individuals exists today and the pathway to these careers in the Greater Memphis area leads through Southwest Tennessee Community College, which offers the only two-year biotechnology degree in Tennessee. If funded, this GIVE 3.0 grant will support the creation of an engagement model designed to attract and retain high school students to an established biotechnology program of study. Students participating in the full spectrum of the project will earn an associate degree along with their high school diploma, and if they continue at Southwest upon graduating high school, the student will complete both a technical certificate and the associate of applied science degree in one year. The lead entity's degree program already meets the work-based learning requirement and graduates workforce-ready individuals sought by local industry partners for full time employment. Through this grant's support high school students from the K-12 partner campus school will participate in a yearlong programming and a dual enrollment biotechnology course between their junior and senior year. When finished with their high school degrees, students participating in the grant-funded program can complete 50% of the technical degree by graduation. In addition, funding will allow us to enhance our good manufacturing and laboratory practice training to meet the specific needs of our internship partners. New lab spaces created by the grant will generate internship-ready candidates capable of gowning and entering environmentally controlled spaces they will find in good manufacturing processes of entities like St. Jude Children's GMP facility.

Section 1. Demonstration of Need

Southwest Tennessee Community College (Southwest) serves Shelby, Tipton and Fayette Counties in Southwest Tennessee. Within these counties Southwest maintains seven campuses with more than 7,100 students enrolled from a three-county population of 1,016,232 (1).

Southwest is tied to the community through service as an academic institution, dual enrollment partnerships and a workforce development hub. The college offers 50 associate of applied science technical programs including the Biotechnology Technician A.A.S.

Memphis, Tennessee is the leading regional biotechnology hub with a combined biotechnology and medical device economic impact projection of \$4.06 billion annually (2). The 2022 Greater Memphis Medical Device Council impact analysis includes data from 45 Memphis, Tennessee companies generating 7,895 direct jobs and 10,867 indirect jobs with wages totaling more than \$1.5 billion. In Tennessee, the biotechnology sector is expected to grow by 20,000 jobs between 2020 and 2030 (3). Southwest is positioned to fill sector jobs in the midsouth as the only community college biotechnology program in Tennessee. Our technical program prepares students to enter the workforce with industry-ready laboratory skills necessary to serve a growing demand for well trained workforce ready candidates in the area. Full time students can expect to complete the program in two years.

In 2022, Greater Memphis employers hired 138 biological technicians totaling 508 positions in the region. Funding this proposal would allow us to double our annual graduation rate and supply 20% of these entry level positions for the market. Entry level biological technician jobs in Southwest Tennessee are projected to increase by 27% between 2020 and 2030 (3). The biological technician entry level wage of \$22.52 in Greater Memphis lags only slightly behind the May 2023 estimated \$27.43 median national average hourly wage for the biological

technicians and \$29.03 for the Memphis metropolitan area (4). Wages in the local biological technician sector average above the living wage of \$20.60 when calculated using the Massachusetts Institute of Technology Living Wages Calculator (5).

Southwest's Biotechnology Program students complete local work-based learning internships, as the program capstone class, and are sought for their skills and workforce preparation. In the past 10 years, the program graduated 11 students annually, each advancing in the field after graduation through local employment or pursuit of additional education through graduate school. Most students find employment through their internship partner with 100% finding employment in the local workforce. Our program has a robust and growing network of established internship sites at local industry partners. Funding of this grant proposal will allow us to expand our training to meet the needs of new industry partners, improve our training for existing partners and develop a model pipeline for engagement with high school students.

Section 2. Project Plan

K-12 Engagement

Southwest will partner with the Memphis and Shelby County Schools Medical District High School (MDHS) located on Southwest's downtown campus. MDHS is an ideal K-12 partner for our project because in addition to their proximity advantage, Southwest has an existing partnership with MDHS whereby students complete an associate science degree from Southwest through dual enrollment while completing their state high school requirements. MDHS graduates can enter the workforce after completing only one additional year of college study to complete the Biotechnology Technician Associate of Applied Science degree. Through this partnership the grant team will pursue the following aims to develop the pipeline from secondary to post-

secondary education and workforce. During the academic school year, project activities will take place on Fridays. MDHS adopted a modified weekly schedule to accommodate dual enrollment classes at Southwest. Because most Southwest classes meet Monday through Thursday, Fridays are free for additional student activities. The grant team will engage sophomores, juniors and seniors using three engagement tools: seminars, laboratory experiences and industry experiences (field trips).

MDHS Seminars

Beginning in the first quarter of year one, we will launch a Friday seminar series with speakers engaging students in topics about biotechnology including biological, chemical and physical sciences, education goals and greater Memphis careers. MDHS students from any grade level may attend seminars. Local industry and academic professionals will be favored over speakers who originate from outside the Greater Memphis area. Some seminars may employ a guided discussion panel, and speakers will be encouraged to actively engage students with surveys or group activities. One seminar will be held in the first and third quarters of each grant year. Funding may support speaker stipends or travel. Seminar days generate and sustain interest in biotechnology programming.

Industry Experiences (Field Trips)

Beginning in the third quarter of year one, we will launch a Friday industry experience day. Modeled after a program run by our grant partner, Transnetyx, these field trips will expose MDHS sophomores to industry activities they might otherwise only experience in the classroom. Participants will transport via bus to one of our grant or Biotechnology Program internship partners and see demonstrations of real-world activities and learn from direct engagement with

partners and Biotechnology Program graduates employed with our industry partners. One industry experience day will be held in the third quarter of each grant year. Funding may support transportation to industry sites. These experiences will help to generate interest in the biotechnology field and students may select the dual enrollment science courses offered during their junior year of high school.

Summer Boot Camp

In the fourth quarter of the first year, we will hold our first summer boot camp. The camp will provide five half days of activity building on the yearlong activities MDHS sophomores experienced on Friday. Camps will provide additional exposure to industry partners, biotechnology lab experiences and additional experience days at partner sites or in the wider science and academic field. Summer boot camps will be designed, directed and delivered by a faculty member or the grant coordinator, or both, and occur once in each fourth quarter of each grant year.

Southwest Biotechnology Lab Experiences

We will launch our biotechnology lab experience day in the first quarter of year one and hold a second lab experience in the third quarter. Lab experience days will engage MDHS juniors with real laboratory experiments and projects in the Southwest's biotechnology laboratory. The biotechnology laboratory at Southwest will provide participants an opportunity to handle benchtop equipment, learn good manufacturing or laboratory practice including aseptic techniques used in biosafety cabinet work and lab management skills they would employ in an industry partner lab space. Biotechnology lab experiences will be designed, directed and delivered by a faculty member or the grant coordinator, or both, and occur once in each first and

third quarter of the grant. Lab experiences are designed to sustain interest and pursuit of biotechnology programming.

Summer Dual Enrollment

During the fourth quarter of each grant year, the grant will fund dual enrollment tuition and fees for Southwest's Introduction to Biotechnology course for a maximum enrollment of 16 students, the cap on enrollment for this course. The course will be taught in the biotechnology laboratory on the downtown campus. Rising juniors who met the standard for entry into the Biotechnology Program based on the General Biology I and General Biology II and Statistics courses completed in their dual enrollment curriculum will apply for spots in the summer course. Students will be admitted to the camp using a competitive rubric design.

New Laboratory Spaces

Currently, the biotechnology program maintains one teaching laboratory equipped to support instruction of bench laboratory techniques. Our partners on this grant seek additional training in two areas vital to performance in their laboratories that our program currently cannot provide. If funded, this grant will allow us to remodel underutilized laboratory space for the biotechnology program and convert it to a simulated laboratory environment for gowning (donning and doffing lab garments) and practicing ingress and egress of environmentally controlled rooms. A portion of the same space will be reconfigured to flexible space capable of housing bioreactor equipment donated from St. Jude Children's GMP facility, accommodate additional instrumentation for training workforce-ready interns and support future partner needs.

General Chemistry is a Biotechnology Program degree requirement and crucial for developing critical thinking, safe laboratory skills and understanding the chemistry of the biotechnology

laboratory. Our current chemistry laboratories do not serve to fulfill these outcomes as they should. The lab infrastructure and chemical fume hoods do not match the modern laboratory experiences of our partners and limit our ability to train students effectively on these lab skills. Funding from this grant will support the remodel of the two chemistry spaces used by the biotechnology students and the installation of new chemical fume hoods.

Work-Based Learning

Southwest's Biotechnology Program requires students to complete an internship as the program's capstone class and maintains a modest network of internship partners to fulfill the program requirement. The internship requires students to complete 250 hours of supervised work, submit a laboratory notebook for review and receive a grade from the supervisor. Creation of new dedicated and flexible lab spaces will serve our current partners and potentially attract new work-based learning partners in addition to expanding our training opportunities. Future students will benefit from the new training and be better prepared to gain employment from current and future industry partners.

Objectives and Outcomes Measures

This proposal outlines programmatic activities targeting the engagement of MDHS dual enrollment students in General Biology I and II, two courses required for Southwest's Biotechnology degree. Current enrollment in these sections totals 24 students with stable enrollments expected in future MDHS classes. Outcomes are linked to the yearlong activities, summer camp attendance and surveys and dual enrollment totals and student performance.

Seminars and Industry and Lab Experience Days

Successful seminars will attract at least 36 students from all three high school grade levels. Satisfaction surveys will measure success on a scale from 1 to 10 with a score of (7) seven on 70% of the surveys determining success. Industry experience days must attract at least 24 students for successful attendance and a career interest score of seven out of 10 in 80% of surveys demonstrates successful engagement. The enrollment of 12 students (or 50% of General Biology students) in the lab experience days meets the standard for successful engagement in this activity. Students will receive feedback and marks, as they would during a bona fide course. Eighty percent of participants must score at least 70% on the activity assessment to meet the benchmark for activity success. Students will accumulate marks over the year for acknowledgment at a closing convocation.

Summer Camps

Summer camps must attract at least 16 students for successful attendance. Students will receive feedback and marks, as they would during a bona fide course. Eighty percent of participants must score at least 70% on an activity assessment to meet the benchmark for activity success. Students will accumulate marks over the year for acknowledgment at a closing convocation.

Dual Enrollment

The dual enrollment course must attract at least 10 students for successful attendance. The dual enrollment course is a bona fide college course for credit. Eighty percent of participants must have a final grade of “C” or a minimum course average of 70% to meet the benchmark for program success. Standard course measures will be used according to the course syllabus.

Governance

Project Director

It is the responsibility of the project director to oversee all aspects of the project as outlined in the funding proposal. The director will work with the grant coordinator to execute those duties.

Grant Coordinator

In consultation and under the direction of the project director, the grant coordinator will manage and oversee all program components including construction of lab spaces, and student activities and work directly with biotechnology program faculty members in program component development. Additionally, the coordinator may deliver instruction content in the laboratory experiences and summer camps. Because of this role, the coordinator will need experience in K-12 or college instruction. Outreach, recruitment and advising will fall under the purview of this position. Training on school and department policy, the advising platform, and state regulations will accompany the coordinator development. All reporting will be completed by the coordinator and submitted following review by the project director.

Table 2.1 Grant activity years one and two by year (Y) and quarter (Q).

Y1	Q1	Q2	Q3	Q4
Seminar Series	Seminar 1 Prep/Launch	Seminar Prep	Seminar 2	Seminar Prep
Experience Days		Experience Day Prep	Experience Day	
Biotechnology Lab Experience		Biotech Lab Experience Prep	Biotech Lab Experience	Biotech Lab Experience Prep
Summer Boot Camp		Summer Boot Camp Prep		Summer Boot Camp Launch
Dual Enrollment	Dual Enrollment Scheduling			Dual Enrollment Course Launch
Grant Coordinator	Position Posting/Hire			Progress Report
Biotechnology Space Redesign	Planning/ Approval	Materials/ Construction		Construction Concludes
Chemistry Lab Upgrade	Planning/ Approval		Materials/ Construction	
Faculty Development			Development Benchmark	
Y2	Q1	Q2	Q3	Q4
Seminar Series	Seminar 3	Seminar Prep	Seminar 4	Seminar Prep
Experience Days		Experience Day Prep	Experience Day	
Biotechnology Lab Experience	Biotech Lab Experience	Biotech Lab Experience Prep	Biotech Lab Experience	Biotech Lab Experience Prep
Summer Boot Camp		Summer Boot Camp Prep		Summer Boot Camp
Dual Enrollment			Dual Enrollment Scheduling	Dual Enrollment Course
Grant Coordinator			Development Benchmark	Progress Report
Biotechnology Space Redesign	Launch Use			
Chem. Lab Upgrade	Construction Concludes	Launch Use		
Faculty Development			Development Benchmark	

Table 2.2 Grant activity years three and four by year (Y) and quarter (Q).

Y3	Q1	Q2	Q3	Q4
Seminar Series	Seminar 4	Seminar Prep	Seminar 5	Seminar Prep
Experience Days		Experience Day Prep	Experience Day	
Biotechnology Lab Experience	Biotech Lab Experience	Biotech Lab Experience Prep	Biotech Lab Experience	Biotech Lab Experience Prep
Summer Boot Camp		Summer Boot Camp Prep		Summer Boot Camp 1 Launch
Dual Enrollment			Dual Enrollment Scheduling	Dual Enrollment Course
Grant Coordinator	Position Posting/Hire			Progress Report
Biotechnology Space Redesign	Planning/Approval	Materials/Const. Launch		Const. Concludes
Chem. Lab Upgrade		Planning/Approval	Materials/Const. Launch	
Faculty Development				
Y4	Q1	Q2	Q3	Q4
Seminar Series	Seminar 6	Seminar Prep	Seminar 7	Seminar Prep
Experience Days		Experience Day Prep	Experience Day	
Biotechnology Lab Experience	Biotech Lab Experience	Biotech Lab Experience Prep	Biotech Lab Experience	Biotech Lab Experience Prep
Summer Boot Camp		Summer Boot Camp Prep		Summer Boot Camp
Dual Enrollment			Dual Enrollment Scheduling	Dual Enrollment Course
Grant Coordinator				Progress Report
Biotechnology Space Redesign				
Chem. Lab Upgrade				
Faculty Development				

Section 3: Strength of Partnership

Greater Memphis Chamber

The Greater Memphis Chamber serves as a champion partner and liaison between Southwest and future industry partners through advertising and meeting engagements. The Chamber's focus is to develop the economy and workforce in Memphis.

Medical District High School

Southwest's established partnership with MDHS presents a unique opportunity to engage these students with the planned program components. MDHS adopted the four-day school schedule to allow their students to earn their college degree alongside earning their high school diploma. MDHS will provide access to their students on Fridays and support the yearlong grant activities organization goal and advising aims.

St. Jude Children's GMP

St. Jude Children's GMP is a new internship partner with formative ties to the Biotechnology Program committed to accepting qualified interns to work in their good manufacturing practice facility and supporting all aspects of the funded proposal. New lab spaces will accommodate donated good manufacturing practice equipment used at the St. Jude drug manufacturing facility in downtown Memphis.

Transnetyx

Transnetyx accepted Biotechnology Program interns previously and will participate in the work-based learning component, as qualified interns are needed at their facility. Additionally, this

partner will support all aspects of this proposal and serve as a consultant on the experience day model. New lab spaces will serve the current and future needs of this partner.

Section 4: Budget Plan

The complete budget is attached in Appendix A.

Salaries, Benefits & Taxes

Funding will support the Southwest full-time faculty member teaching the summer dual enrollment course and full and part time faculty members employed as facilitators for lab experiences and summer boot camps. Additional funding supports the full-time grant coordinator.

Professional Fee, Grant & Award

Facilitators from MDHS, industry partners or the Greater Memphis chamber will receive compensation from this budget line for activity engagement. Seminar speakers may receive an honorarium from these funds.

Supplies, Telephone, Postage & Shipping, Occupancy, Equipment Rental & Maintenance, Printing and Publications

This budget line identifies funding needs for the boot camp materials, dual enrollment textbooks and experience lab day materials.

Travel, Conferences & Meetings

The dual enrollment faculty member and grant coordinator will attend professional development conferences in the second year of the project. Funds from this line will support student transportation to industry experiences.

Other Non-Personnel

Funding from this line pays scholarships for 16 dual enrollment students each year in the summer dual enrollment course.

Capital Purchase

The budget item detail in Appendix B includes line-item descriptions and amounts for this funding line. The details include construction, casework and chemical fume hood purchase and installation amounts.

Indirect Cost

Indirect cost was based on Salaries, Benefits and Taxes at a rate of 59%.

Section 5: Sustainability

New lab spaces will be serviced and maintained by Southwest's facilities unit, including maintenance and repair of chemical fume hoods and laboratory infrastructure. Industry partners will maintain donated laboratory equipment and upgrade equipment as necessary to meet their training needs. State of Tennessee dual enrollment dollars and grant funding will support future dual enrollment enrollments. Summer camp and yearlong program materials and stipends will be supported by Natural Sciences Department funds, industry partner gifts and existing Southwest grant funds. Dual enrollment instructor salaries will be absorbed as traditional department instruction costs.

Section 6: Optional Criteria

Economic Status Acknowledgment

Within Southwest's service area of Shelby, Tipton and Fayette counties, the U.S. Census Bureau identified 64 census tracts in persistent poverty based on thirty years of census and American Community Survey data (6). And the census estimates from July 2022 projected a 16.6% poverty rate for Shelby County (1). In the fall of 2023 39.2% of Southwest students were supported by Federal Pell Grants.

Budget Item Detail

Budget Items		Year 1 Ending	Year 2 Ending	Year 3 Ending	Year 4 Ending	Total
Salaries and Benefits						
Dual Enrollment Instructor (Full-Time Faculty Member Traditional Summer Pay; Benefits and Taxes at 35%)		\$20,000.00	\$20,000.00	\$20,000.00	\$20,000.00	
Grant Coordinator (Full-Time Staff Member; Benefits and Taxes at 35%)		\$68,000.00	\$68,000.00	\$68,000.00	\$68,000.00	
Facilitator Stipends (Full-Time Southwest Faculty Members)		\$4,000.00	\$4,000.00	\$4,000.00	\$4,000.00	
Facilitator Stipends (Part-Time Southwest Faculty Members)		\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	
Total Salaries & Benefits	Sub-Total	\$94,000.00	\$94,000.00	\$94,000.00	\$94,000.00	\$376,000.00
Professional Fees, Grants & Awards						
Facilitator Stipends (Other Non-Faculty Members)		\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	
Seminar Speaker Fees		\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	
Total Professional Fees, Grants & Awards	Sub-Total	\$2,000.00	\$2,000.00	\$2,000.00	\$2,000.00	\$8,000.00
Travel, Conferences & Meetings						

Southwest Full-Time Faculty Member Prof. Development			\$3,500.00			
Grant Coordinator Prof. Development			\$3,500.00			
Experience Day Travel (Bus Rental)		\$1,200.00	\$1,200.00	\$1,200.00	\$1,200.00	
Total Travel, Conference & Meetings	Sub-Total	\$1,200.00	\$8,200.00	\$1,200.00	\$1,200.00	\$11,800.00
Supplies, Telephone, P&S, Occupancy, Equipment Rental & Maint., Pub & Printing						
MDHS Summer Boot Camp Supplies		\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	
Dual Enrollment Textbooks (16 Students)		\$2,400.00				
Dual Enrollment Lab Supplies		\$8,000.00	\$8,000.00	\$8,000.00	\$8,000.00	
Total Supplies, Telephone, P&S, Occupancy, Equipment Rental & Maint., Pub & Printing	Sub-Total	\$15,400.00	\$13,000.00	\$13,000.00	\$13,000.00	\$54,400.00
Capital Purchases						
Chemical Fume Hoods		\$175,000.00				
Laboratory Casework		\$125,000.00				
Design & Architecture		\$20,000.00				
Building & Materials		\$175,000.00				
Chemical Fume Hood Exhausts		\$10,000.00				
Total Capital Purchases	Sub-Total	\$505,000.00				\$505,000.00

Other Non-Personnel						
Dual Enrollment Scholarships (16 Students)		\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	
Total Other Non-Personnel	Sub-Total	\$15,000.00	\$15,000.00	\$15,000.00	\$15,000.00	\$60,000.00
Indirect Costs						
Southwest		\$55,460.00	\$55,460.00	\$55,460.00	\$55,460.00	\$221,840.00
Total Indirect Costs	Sub-Total					
Grand Total						\$1,237,040.00

Appendix B: References

1. <https://www.census.gov/quickfacts/fact/table/shelbycountytennessee,TN/PST045222> (Visited April 5, 2024)
2. Impact Analysis Greater Memphis Medical Device Industry Cluster, Shelby County, Greater Memphis Medical Device Council, July 2022.
3. Improving the Pipeline for Tennessee's Workforce: Academic Supply and Occupational Demand Report 2023
4. Bureau of Labor Statistics, U.S. Department of Labor. Occupational Outlook Handbook, Biological Technicians, <https://www.bls.gov/ooh/life-physical-and-social-science/biological-technicians.htm> (Visited April 5, 2024)
5. Living Wage Calculator <https://livingwage.mit.edu/metros/32820> (Visited April 5, 2024)
6. <https://www.census.gov/library/publications/2023/acs/acs-51.html> (Visited April 5, 2024)

MEMORANDUM OF UNDERSTANDING
BETWEEN
SOUTHWEST TENNESSEE COMMUNITY COLLEGE GIVE 3.0 GRANT,
PATHWAYS TO CAREERS IN BIOTECHNOLOGY
AND
Children's GMP, LLC

I. Memorandum of Understanding

This Memorandum of Understanding (MOU) shall be effective upon the signature of all participating parties and is contingent upon a successful grant award.

II. Purpose

The purpose of the MOU is to support an application for funding through the GIVE 3.0 Governor's Investment in Vocational Education Grant. This MOU outlines commitments between Southwest Tennessee Community College (Southwest) and the Children's GMP, LLC (CGMP) for a collaboration to develop and implement the Southwest Pathway to Careers in Biotechnology (SPCB) grant-funded program and assist in planning, developing, coordinating, providing, and evaluating pipeline services and describing the roles and responsibilities of the work-based learning (WBL) opportunities (e.g. internships) in biotechnology. The SPCB program will improve the training and workforce preparation of students in Southwest's Biotechnology Program and engage secondary education partners to create a workforce pathway for secondary education dual enrollment and traditional post-secondary students meeting the Biotechnology Program degree standards.

III. Partners

The Southwest Biotechnology Program has an established partnership with CGMP leading to internship opportunities in the program's capstone internship course. CGMP and SPCB agree to continue this partnership and provide feedback and active participation throughout the life of the grant. Under the SPCB, the Southwest Biotechnology Program internship course will retain its current learning outcomes allowing alignment with the needs and expertise of the CGMP, as determined by agreement between the CGMP principal representative and Southwest's Biotechnology Program coordinator.

This MOU documents CGMP's support of SPCB and upon the award of the grant funds associated with this proposal agree to the following:

1. CGMP will enhance components of the SPCB plan by providing seminar and workshop support and on-site experiences for pipeline and traditional SPCB plan students.
2. A representative from CGMP will serve on the SPCB advisory board and the Southwest Biotechnology Program advisory board.
3. SPCB creates a community pipeline from secondary education to workforce employment for industry-needed skills by graduating qualified candidates capable of employment at CGMP.
4. SPCB trains skilled candidates who meet the workforce needs of CGMP and are qualified to intern at CGMP.
5. CGMP accepts qualified trained candidates for consideration in their internship program to meet the 250-hour program requirement.

6. CGMP interns practice and demonstrate proficiency of knowledge and skills by a permanent professional in the field, demonstrate the ability to solve real work problems in a typical work setting and participate in professional development or other opportunities available to build on these skills.

CGMP and SPCB shall comply with the applicable State and Federal laws and regulations, including without limitation the Family Education Rights and Privacy Act (FERPA) and Southwest and CGMP policies and guidelines in the performance of this MOU.

This MOU shall be in effect for the period commencing with the award August 1, 2024 and ending on August 1, 2028. This agreement shall be terminated by either party by giving written notice to the other at least thirty (30) days before the effective date of termination.

Southwest Tennessee Community College:

DocuSigned by:

Dr. Tracy D. Hall

4/30/2024

2304D4F473334CE

Dr. Tracy D. Hall, President, Date

Children's GMP, LLC

Frank A. Fazio

Frank Fazio, President, Date

08/30/2024

**MEMORANDUM OF UNDERSTANDING
BETWEEN
SOUTHWEST TENNESSEE COMMUNITY COLLEGE GIVE 3.0 GRANT,
PATHWAYS TO CAREERS IN BIOTECHNOLOGY
AND
TRANSNETYX**

I. Memorandum of Understanding

This Memorandum of Understanding (MOU) shall be effective upon the signature of all participating parties and is contingent upon a successful grant award.

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The purpose of the MOU is to support an application for funding through the GIVE 3.0 Governor's Investment in Vocational Education Grant. This MOU outlines commitments between Southwest Tennessee Community College (Southwest) and Transnetyx for a collaboration to develop and implement the Southwest Pathway to Careers in Biotechnology (SPCB) grant-funded program and assist in planning, developing, coordinating, providing, and evaluating pipeline services and describing the roles and responsibilities of the work-based learning (WBL) opportunities (e.g. internships) in biotechnology. The SPCB program will improve the training and workforce preparation of students in Southwest's Biotechnology Program and engage secondary education partners to create a workforce pathway for secondary education dual enrollment and traditional post-secondary students meeting the Biotechnology Program degree standards.

III. Partners

The Southwest Biotechnology Program has an established partnership with Transnetyx leading to internship opportunities in the program's capstone internship course. Transnetyx and SPCB agree to continue this partnership and provide feedback and active participation throughout the life of the grant. Under the SPCB, the Southwest Biotechnology Program internship course will retain its current learning outcomes allowing alignment with the needs and expertise of Transnetyx, as determined by agreement between the Transnetyx principal representative and Southwest's Biotechnology Program coordinator.

This document attests Transnetyx's support of SPCB and upon the award of the grant funds associated with this proposal agree to the following:

1. Transnetyx will enhance components of the SPCB plan by providing seminar and workshop support and on-site experiences for pipeline and traditional SPCB plan students.
2. A representative from Transnetyx will serve on the SPCB advisory board and the Southwest Biotechnology Program advisory board.
3. SPCB creates a community pipeline from secondary education to workforce employment for industry-needed skills by graduating qualified candidates capable of employment at Transnetyx.
4. SPCB trains skilled candidates who meet the workforce needs of Transnetyx and are qualified to intern at Transnetyx.

5. Transnetyx accepts trained candidates for consideration in their internship program to meet the 250-hour program requirement.
6. Transnetyx interns practice and demonstrate proficiency of knowledge and skills by a permanent professional in the field, demonstrate the ability to solve real work problems in a typical work setting and participate in professional development or other opportunities available to build on these skills.

Transnetyx and SPCB shall comply with the applicable State and Federal laws and regulations, including without limitation the Family Education Rights and Privacy Act (FERPA) and Southwest policies and guidelines in the performance of this agreement.

This agreement shall be in effect for the period commencing with the award August 1, 2024 and ending on August 1, 2028. This agreement shall be terminated by either party by giving written notice to the other at least thirty (30) days before the effective date of termination.

Southwest Tennessee Community College

DocuSigned by:

Dr. Tracy D. Hall

4/29/2024

Dr. Tracy D. Hall, President

Date

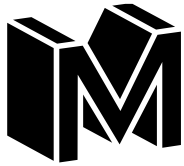
Transnetyx

Christine Essary

April 25, 2024

Christine Essary, Employee and Strategic Development Manager

Date



**GREATER
MEMPHIS
CHAMBER**

100 Peabody Place, Suite 1000
Memphis, TN 38103
Phone: 901.543.3500
MemphisChamber.com

MEMORANDUM OF UNDERSTANDING
BETWEEN
SOUTHWEST TENNESSEE COMMUNITY COLLEGE GIVE 3.0 GRANT,
PATHWAYS TO CAREERS IN BIOTECHNOLOGY
AND
GREATER MEMPHIS CHAMBER

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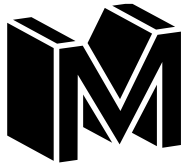
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III. Partners

This document attests GMC's support of SPCB and upon the award of the grant funds associated with this proposal agree to the following:

1. GMC will enhance components of the SPCB plan by providing seminar and workshop support and on-site experiences for pipeline and traditional SPCB plan students.
2. A representative from GMC will serve on the SPCB advisory board and the Southwest Biotechnology Program advisory board.
3. SPCB creates a community pipeline from secondary education to workforce employment for industry-needed skills by graduating qualified candidates capable of employment in local industry.
4. SPCB trains skilled candidates who meet the workforce needs of local industry partners and are qualified to intern with grant partners.



**GREATER
MEMPHIS
CHAMBER**

100 Peabody Place, Suite 1000
Memphis, TN 38103
Phone: 901.543.3500
MemphisChamber.com

GMC and SPCB shall comply with the applicable State and Federal laws and regulations, including without limitation the Family Education Rights and Privacy Act (FERPA) and Southwest policies and guidelines in the performance of this agreement.

This agreement shall be in effect for the period commencing with the award August 1, 2024 and ending on August 1, 2028. This agreement shall be terminated by either party by giving written notice to the other at least thirty (30) days before the effective date of termination.

Southwest Tennessee Community College:

DocuSigned by:

Dr. Tracy D. Hall

4/30/2024

Dr. Tracy D. Hall, President

Date

Greater Memphis Chamber

Amity Schuyler

4/30/24

Amity Schuyler,
Chief Innovation Officer
SVP Workforce Development

Date



DEPARTMENT OF HEALTH & HUMAN SERVICES

Program Support Center
Financial Management Portfolio
Cost Allocation Services

1301 Young Street
Suite 1140
Dallas, TX 75202
PHONE: (214) 767-3261
FAX: (214) 767-3264
EMAIL: CAS-Dallas@psc.hhs.gov

November 09, 2022

Dr. Tracy Hall
President
Southwest Tennessee Community College
P.O. Box 780
Memphis, TN 38101-0780

Dear Ms. Hall:

A copy of an indirect cost rate agreement is being sent to you for signature. This provisional agreement reflects an understanding reached between your organization and a member of my staff concerning the rate(s) that may be used to support your claim for indirect costs on grants and contracts with the Federal Government.

Please have the agreement signed by an authorized representative of your organization and return to me by email, retaining the copy for your files. Our email address is CAS-Dallas@psc.hhs.gov. We will reproduce and distribute the agreement to the appropriate awarding organizations of the Federal Government for their use.

An indirect cost proposal, together with the supporting information, is required to substantiate your claim for indirect cost under grants and contracts awarded by the Federal Government. Thus, your next indirect cost proposal, based on actual costs for the fiscal year ending 06/30/2025, is due in our office by 12/31/2025. Please submit your proposals electronically via email to CAS-Dallas@psc.hhs.gov.

Sincerely,

Arif M. Karim -S

Digitally signed by Arif M.
Karim -S
Date: 2022.11.14 10:05:40
-06'00'

Arif Karim
Director
Cost Allocation Services

Enclosures:

PLEASE SIGN AND EMAIL A COPY OF THE RATE AGREEMENT

COLLEGES AND UNIVERSITIES RATE AGREEMENT

EIN: 62-1834818

DATE:11/09/2022

ORGANIZATION:

Southwest Tennessee Community College

P.O. Box 780

Memphis, TN 38101-0780

FILING REF.: The preceding agreement was dated 06/22/2017

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: Facilities And Administrative Cost Rates

RATE TYPES: FIXED FINAL PROV. (PROVISIONAL) PRED. (PREDETERMINED)

EFFECTIVE PERIOD

<u>TYPE</u>	<u>FROM</u>	<u>TO</u>	<u>RATE(%)</u>	<u>LOCATION</u>	<u>APPLICABLE TO</u>
Final	07/01/2020	06/30/2022	57.90	On-Campus	All Programs
Final	07/01/2020	06/30/2022	32.20	Off-Campus	All Programs
PRED.	07/01/2022	06/30/2026	59.00	On-Campus	All Programs
PRED.	07/01/2022	06/30/2026	33.20	Off-Campus	All Programs
PROV.	07/01/2026	Until Amended			Use same rates and conditions as those cited for fiscal year ending June 30, 2026.

***BASE**

Direct salaries and wages including all fringe benefits.

ORGANIZATION: Southwest Tennessee Community College

AGREEMENT DATE: 11/09/2022

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

The fringe benefits are specifically identified to each employee and are charged individually as direct costs. The directly claimed fringe benefits are listed below.

TREATMENT OF PAID ABSENCES

Vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims are not made for the cost of these paid absences.

OFF-CAMPUS DEFINITION: For all activities performed in facilities not owned by the institution and to which rent is directly allocated to the project(s) the off-campus rate will apply. Grants or contracts will not be subject to more than one F&A cost rate. If more than 50% of a project is performed off-campus, the off-campus rate will apply to the entire project.

Fringe benefits include:

FICA/Medicare, Unemployment, Workers' Compensation, Retirement, Health Insurance, 401K Match and Employee Educational Assistance.

Equipment means tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds the lesser of the capitalization level established by the non-Federal entity for financial statement purposes, or \$5,000.

The next Indirect Cost Proposal, based on actual costs for the fiscal year ending 06/30/2025, is due in our office by 12/31/2025.

ORGANIZATION: Southwest Tennessee Community College

AGREEMENT DATE: 11/09/2022

SECTION III: GENERAL

A. LIMITATIONS:

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its facilities and administrative cost pools as finally accepted; such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as facilities and administrative costs are not claimed as direct costs; (3) Similar types of costs have been accorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from facilities and administrative to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATES:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Title 2 of the Code of Federal Regulations, Part 200 (2 CFR 200), and should be applied to grants, contracts and other agreements covered by 2 CFR 200, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

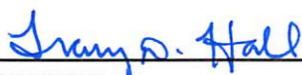
E. OTHER:

If any Federal contract, grant or other agreement is reimbursing facilities and administrative costs by a means other than the approved rate(s) in this Agreement, the organization should (1) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of facilities and administrative costs allocable to these programs.

BY THE INSTITUTION:

Southwest Tennessee Community College

(INSTITUTION)



(SIGNATURE)

Tracy D. Hall

(NAME)

President

(TITLE)

11/17/22

(DATE)

ON BEHALF OF THE FEDERAL GOVERNMENT:

DEPARTMENT OF HEALTH AND HUMAN SERVICES

(AGENCY)

Arif M. Karim - S Digitally signed by Arif M. Karim - S
Date: 2022.11.14 10:05:09 -06'00'

(SIGNATURE)

Arif Karim

(NAME)

Director, Cost Allocation Services

(TITLE)

11/09/2022

(DATE) 1357

HHS REPRESENTATIVE: Joel McKenzie

Telephone: (214) 767-3261