

Entity Information	
Owner	Record Type
Melissa Stephan	Workforce
Propose Name	Propose Status
WF-07932	In Review
Name of Entity	Stage
Lake Technical College	Proposed
Entity	
[REDACTED]	

Program Requirements

Training Title and Description

Title: Lake Technical College Center for Advanced Manufacturing and Innovation

This project would provide an expansion of the existing CNC Production Specialist program (CNC) and open a complimentary Advanced Manufacturing program to ensure students are prepared with industry-standard equipment, technology, and curriculum in order to secure employment in the growing semiconductor and manufacturing sectors in Florida. In 2017, the CNC program opened with five students and currently is full with 20 students with a waiting list for the Spring 2024 semester. Lake County and the region have a strong manufacturing presence and a skilled workforce is critical. The majority of the Lake Technical College graduates are employed in the field immediately after graduation. Based on input from local industry partners, additional education in advanced manufacturing is critical for the next phases of their businesses. The new Advanced Manufacturing program would become a viable pathway for the existing CNC program graduates along with those seeking additional skills preparing them in the field of semiconductors and advanced manufacturing while utilizing a robotics track and a global logistics track woven around and through the skills needed in these industries.

Support Description

This funding will allow Lake Technical College (LTC) to expand the current CNC program and add the Advanced Manufacturing program within the Manufacturing career cluster. This proposal supports LTC's mission of being an integral component of the economic growth and development in our communities by offering a variety of high-quality career-education and training opportunities. LTC prepares students in occupations relevant to the infrastructure and future growth of the Florida Workforce Region 12 (Orange, Osceola, Seminole, Lake, and Sumter counties). LTC opened in 1966 and since that time, thousands of students have entered the workforce well-prepared for productive lives in the region and beyond. Hundreds of local businesses and industries, large and small, support LTC by serving on advisory committees, donating materials and equipment, and hiring graduates

Transferable Skills Description

This proposal will provide participants with transferable and sustainable workforce skills applicable to more than a single employer in the manufacturing field. The programs are specifically designed to ensure program completers earn certifications and credentials that are applicable across the region and the state. These skills will transfer easily into the semiconductor industry as the students refine their precision machining skills, become familiar with advanced materials, learn quality control and inspection, develop their collaborating and problem-solving skills, hone their mechanical and technical knowledge, and become proficient with safety awareness and process optimization. In the Advanced Manufacturing program, students will learn automation, robotics, PLCs, electronics, and sensors – again all transferable to the growing semiconductor and manufacturing sector. Among those manufacturers currently hiring or

supporting LTC and its graduates include Burton Racing, Electron Machine Corporation, Collins Manufacturing, Rev Group (E-1), Spencer Fabrications, MACF (Manufacturing Association of Central Florida), Mitsubishi Power, GWS Tool Group, Eagle Quality Components, Technetics Group and Vermeer Corp.

Support Public Program(s)

The proposal supports the expansion of the CNC program and the creation of the Advanced Manufacturing program – both of which result in postsecondary career certificates offered to the public through Lake Technical College, the state technical college serving adults ages 16 years and older. LTC is fully accredited by the Council on Occupational Education and is a public charter technical college sponsored by Lake County Schools. LTC abides by all state and federal non-discrimination laws. LTC provides equal access for special populations to CTE programs via personalized and adaptive training aids.

Description of Criteria Match

LTC makes decisions to offer career programs based on state, regional, and local needs. Criteria include Region 12 Demand Occupations list, targeted industries, job openings in the region, and employer surveys and focus groups. The established CNC program is strongly supported by industry partners who have expressed the need for the program to be expanded both in size and with advanced manufacturing skills. The new Advanced Manufacturing program will provide additional skilled manufacturing technicians. LTC follows the curriculum frameworks established by the Florida Department of Education and validated by industry experts.

Economic Opportunity Description

As manufacturing continues to grow in Lake County and the region, along with the semiconductor and logistics industries, LTC will continue to be a significant educational provider in these intertwined fields. According to the National Association of Manufacturers, the total output from manufacturing in Florida was \$68.48 billion. There was a total of 388,000 manufacturing employees and the trajectory for this field has been climbing dramatically. According to the Semiconductor Industry Association, Florida is number five in the nation in total semiconductor jobs and ranked number four in export value. Over the course of the next 10 years, it is anticipated that 187 students will complete the CNC program and 140 will complete the Advanced Manufacturing program. In addition, students will earn industry credentials connected to their training so that they are workforce-ready upon employment. (See attachment)

Demand Occupation Lists

Yes

Demand Occupation Lists Description

Yes. Machinists and Electrical and Electronic Engineering Technologists and Technicians.

Not exclude unemployed or underemployed

Yes

FL Targeted Industries

Yes

FL Targeted Industries Description

Manufacturing, (31-33)

Local Match Amount

No

Program Specifics

Existing Program Expansion

Yes

Existing Program Expansion Description

This explanation is two-fold. First, the funds will allow for the expansion of the current CNC program which is currently full and has a waiting list for the next semester. Additional furniture and equipment are needed to provide for the expansion. The complimentary program, Advanced Manufacturing, will be new, however, co-located in the same space as the CNC program. When that lab was built originally, it was built with the plan to add this additional program. Advanced Manufacturing will become part of the CNC pathway as students flow from one program to the other. In addition, as incumbent workers need additional advanced skills, they will also enroll in the Advanced Manufacturing program. To create this new program, with the interconnection to the growing semiconductor industry, equipment, training curriculum, and new and updated furniture will be required.

Training Delivery Description

The training will be classroom and lab based. The focus will be on hands-on and project-based learning, large and small group presentations and collaborations, as well as individualized instruction as appropriate. Work-based learning, including job shadowing, and cooperative education, will also be included. The programs will be offered at Lake Technical College's main campus located at 2001 Kurt Street in Eustis, FL.

Program Sustainability Description

The programs will be sustained through tuition, fees, and WDIS funds via normal allocations.

Length of Program

Each program is 600 hours or approximately one semester. The next starting date for the CNC program is January 2024. The program runs a semester so it will be complete in June, 2024. The next class will start in July 2024. The new Advanced Manufacturing program will begin in March 2024 and complete in October 2024.

Number Enrolled

412

Number Completers

397

Certifications, degrees with CIP codes

(See attached spreadsheet)

- Autodesk Certified User – Fusion 360
- Autodesk Certified Associate in CAM 2.5 Axis Milling for Machinists
- SolidWorks Professional
- OSHA
- Forklift

For CNC Production Specialist, the CIP code is 48.0510; the percentage of completers of the program is predicted to be 79% with 100% of them in the code.

For Advanced Manufacturing, the CIP code is 15.0801; the percentage of completers is predicted to be 79% with 100% of them in the code.

Program Begin Date

1/8/2024

Program End Date

6/12/2024

Program Budget

Detailed Budget Narrative

See attached.

Requested Total

\$2,028,120.00

Source - City / County

\$0.00

Source - Private

\$0.00

Source - Other

\$0.00

Cost - Personnel

\$178,000.00

Cost - Facilities

\$0.00

Cost - Training Materials

\$222,045.00

Cost - Tuition

\$0.00

Cost - Other

\$50,000.00

Cost - Other Details

Student scholarships

Cost - Total

\$2,028,120

Approvals and Authority	
Authorized signatory on Board's behalf	Attestation Name of Entity Lake Technical College, Inc.
Approvals Needed Approval of the Lake Technical College Board of Directors. The Board can hold an emergency meeting to approve with a 10 day notice.	Attestation Name and Title of Auth Rep Melissa Stephan, Director of Curriculum and Instruction
Meeting Schedule The regular meetings are scheduled as follows: Monday, December 11, 2023 – Monday, March 11, 2024 – Monday, May 13, 2024 – Monday, June 10, 2024 –	Attestation Representative Signature Melissa Stephan
Meeting Notice Days Yes, LTC is willing to hold a special meeting. The Board can hold the meeting to approve with a 10-day notice.	Attestation Signature Date 11/9/2023
Authority Proof	

	Adv Mfg Enroll	Adv Mfg Completers	CNC Enroll	CNC Completers
Year 1	8	6	20	16
Year 2	12	9	24	19
Year 3	16	13	24	19
Year 4	20	16	24	19
Year 5	20	16	24	19
Year 6	20	16	24	19
Year 7	20	16	24	19
Year 8	20	16	24	19
Year 9	20	16	24	19
Year 10	20	16	24	19
TOTAL	176	140	236	187

Detailed Budget Narrative

Amount Requested	Category	Programs
\$1,578,075	Equipment and Furniture	CNC and Advanced Manufacturing
222,045	Training	Advanced Manufacturing
178,000	Personnel	Advanced Manufacturing
50,000	Student Scholarships	Advanced Manufacturing
\$2,028,120	TOTAL REQUESTED	

Purchasing will begin in December 2024 or as early as possible after the award of the grant funds.

The equipment for the expansion of the CNC program and the new Advanced Manufacturing program will be ordered as soon as notification of the award occurs. Since LTC is a charter technical college, the purchasing process is relatively quick.

The Makino EDM, CNC Lathe Retrofit for Robot Arm, HAAS UMC 750 5-axis machining center, and the Mitutoya Coordinating Measuring Machine will allow for additional workstations for students in the CNC program. The 3D printer along with this additional equipment will prepare students for employment or for continuing on into the Advanced Manufacturing program.

The remaining equipment on the detailed spreadsheet will be utilized for the Advanced Manufacturing program. The students will assemble, integrate, program, produce, and make ready for shipment, an assembled product. This gives students firsthand experience with integrating a robot, mastering the facets of the semiconductor industry with laser etching and Q-Span Metrology, and the shipping, packaging, and quality control components of the semiconductor and manufacturing industries.

The furniture requested includes additional desks, workbenches, and workstations for the CNC program, along with chairs, computers, and collaborative workspace furniture to be utilized in Advanced Manufacturing and CNC. Working in teams and collaborating are integral components of these industries and this furniture will emulate the advanced manufacturing workplace.

LTC will fund the instructor for the CNC program out of its operating budget. The request includes an instructor position for the Advanced Manufacturing program for two years. This position will be hired as soon as possible after the initial award of the grant. After the initial start-up, the LTC budget will include this position.

Funding for student scholarships in the new Advanced Manufacturing program will be utilized when the program starts in March 2024 so there won't be a financial barrier for enrollment until the program is approved by the federal government so that LTC can award financial aid. This process often takes six months.

Advanced Manufacturing

Item	Quantity	Cost	Total
Makino EDM	1	150,000	\$150,000
CNC Lathe Retrofit for Robot Arm	1	118,000	\$118,000
HAAS UMC 750 5 axis machining center	1	300,000	\$300,000
Mitutoya Cordinating Measuring Machine	1	100,000	\$100,000
3D Vision Bin Picking System	1	85,892	\$85,892
Automated Assembly Station	1	124,552	\$124,552
Automated Metrology System	1	138,435	\$138,435
Serialization System (Laser Etch)	1	98,079	\$98,079
Packing and Inspect System	1	75,217	\$75,217
Autonomous Mobile Robot system	1	101,780	\$101,780
PLC System	1	55,512	\$55,512
Sensor Package	1	7,566	\$7,566
Auctuator/Air Prep Package	1	22,509	\$22,509
Table Package/Sub Component Package	1	74,083	\$74,083
Vision Miner 22 Idex v.2.0 Industrial 3D Printer	1	17,000	\$17,000
Onsite Training, LMS	1	222,045	\$222,045
Classroom Chairs	24	230	\$5,520
Computers for Classroom	24	1250	\$30,000
Workbenches	4	2649	\$10,596
Dura-Tech Workstations	4	1512	\$6,048
Table, square 48 inches	7	506	\$3,542
Table, round, 36 inches	2	844	\$1,688
Table, rectangle, 30 x 60	9	756	\$6,804
Table rectangle, 36 x 72	1	848	\$848
Chair	14	245	\$3,430
Cupboard, 24 x 36	1	1202	\$1,202
Stool	18	454	\$8,172
Push Pop Seat	8	539	\$4,312
Recepticle	2	1130	\$2,260
Whimsy Round Mobile	7	290	\$2,030
Table, Mid Back Corner Table Right	1	879	\$879
Bench, 90 degrees	2	1060	\$2,120
Bench, one seat	3	781	\$2,343
Table, strassa work table	1	838	\$838
Seat, 2 seat armless	7	1554	\$10,878
Seat, Frindge Mid Back Two Seat Arms Table	3	1980	\$5,940
Student Scholarships	20	2500	\$50,000
Personel, including frings and benefits , 2 years	2	89000	\$178,000
			\$2,028,120