Tomorrow's workers
... They are right here

MCESC
MONTGOMERY COUNTY EDUCATIONAL SERVICE CENTER

Montgomery County ESC
Business Advisory Council
2023-2024 Plan

Montgomery County ESC Business Advisory Council

Ensuring our workforce can compete by enhancing partnerships between schools, higher education and employers

The Business Advisory Council is:

- Ensuring student success and career-readiness
- Helping existing and new businesses thrive
- Keeping talent in our region
- Making Montgomery County a great place to live and work

It's the fall of 2023 and we're continuing to bring in new partners and expand our capacity to strengthen our region's Business Advisory Council. We're focused on serving our schools and our community in designing creative and innovative workforce development strategies. We're also proud to accept our four-star rating from the Ohio Department of Education earlier this year. We not only received the highest rating possible for our work over the last school year, but we also received awards for excellence in developing professional skills for the future and in building partnerships. Awards and recognition help legitimize our ambitious goals and raise awareness about our initiatives but when it comes to this school year, we have even more in store! We are committed to continuing to expand work-based learning opportunities for students in our region. We're particularly focused on better-connecting students to industry-relevant exposure with an emphasis on expanding these opportunities at an early age. This plan highlights just how we intend to do that with a clear overview of what industry and schools can do to unite in this important work.

VISION

All MCESC BAC member districts' students are career-focused and have the preparation they need to succeed on the job and in life.

MISSION

We will promote substantive and effective collaboration between educators and industry to prepare students to compete in a global economy.

VALUES We believe in:

1. **Integrity** — Our workforce must embrace personal and civic responsibility and hold strong ethical standards.
2. **Equity** — All students' educational needs and aspirations must be respected. Every career choice has value.
3. **Innovation** — The job market and employers' needs are ever-changing. Innovation is a constant and requires life-long skill development.
4. **Diversification** — Montgomery County's economy is diverse by design, and every industry sector is counting on access to talented employees. Young people need to have access to diverse educational options that prepare them to succeed in our local economy.
5. **Collaboration** — Industry leaders and educators must work together to create a cohesive and sustainable system that builds a highly skilled and adaptable workforce.
6. **Communication** — Clear and proactive feedback is a prerequisite for successful partnerships.

How we work together

The Plan was established at this level, and continues to be reviewed and updated based on feedback, and then re-submitted to the Ohio Department of Education and the Governor's office as per ORC mandate.

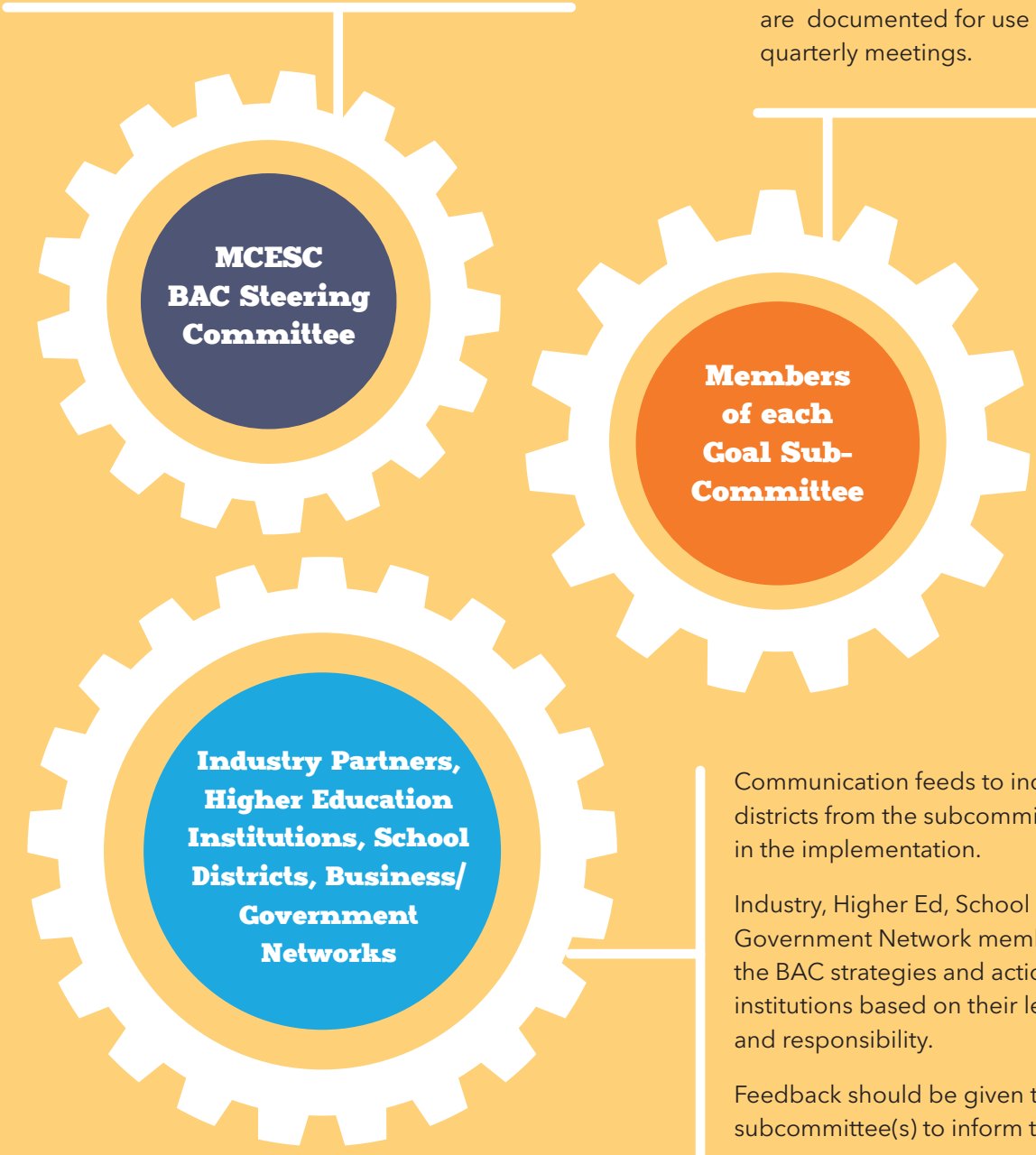
Members of the Steering Committee are comprised of P2P Institues Attendees, Subcommittee Co-Chairs, and community stakeholders.

Co-Chairs host the Annual BAC Dinner and facilitate three other MCESC BAC At-Large Quarterly Meetings. Additionally, the Steering Committee convenes at least two times per year.

Each of the BAC member organizations is expected to have representation on at least one BAC subcommittee.

Each of the 6 subcommittees is responsible for carrying out the specific BAC Goals. The "Plan" established includes the strategies, actions and those responsible associated with each of the 6 Goals. *(See Plan, pages 11-16.)*

Each subcommittee meets regularly. Updates are documented for use at MCESC BAC quarterly meetings.



Communication feeds to industries and school districts from the subcommittee members to aide in the implementation.

Industry, Higher Ed, School Districts, Business/ Government Network members will implement the BAC strategies and actions within their own institutions based on their level of capacity, need and responsibility.

Feedback should be given to the reps on the BAC subcommittee(s) to inform the on-going plan.

CAREER READINESS PROGRESSION

K 1 2 3 4 5 6 7 8 9 10 11 12

CAREER AWARENESS
Elementary Grades (K–5)

CAREER EXPLORATION
Middle Grades (6–8)

CAREER PLANNING
High School (9–12)

- **Career Awareness Programming**
  - A-Z Curriculum
  - Career Speakers
  - Aligned Events

K-8

- **Career Exploration Course Offerings**
- **Industry Site Visits***
- **Pathways Fair**

6-8

- **YouScience***
- **Student Snapshot***
  - Identifies Career Pathway
- **Job Shadowing Experiences*** (aligned to YouScience results)

**Can and should be repeated*

8-9

- **Employability Skills Course**
- **Individualized College and Career Plan**
  - Identifies /confirms Career Pathway
- **Job Shadowing Experiences**

9

- **Essential Career Pathways Course(s)**
  - Identifies /confirms Career Pathway
- **Digital & Financial Literacy Courses**
- **Job Shadowing Experiences**

10

- **TechPrep/CCP Courses Digital & Financial Literacy Courses** (Aligned Pathway)
- **Industrial Credential Curriculum**

  Sinclair, Graduation Alliance and other identified partners will provide Industry-specific Pathway sheet and *Industry Credential Curriculum*
- **Hiring Fairs**
- **Assessment for Industry-recognized Credential**

  Take at completion of Industry Credential Curriculum
- **Continued College and Career Advising**

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SUMMER Industry experience/ Internship

- **TechPrep/CCP Courses** (Aligned Pathway)

  Sinclair and other higher ed partners will provide Industry-specific Pathway sheet
- **Industrial Credential Courses**

  Sinclair, Graduation Alliance and other identified partners will provide Industry Credential Curriculum
- **College & Career Signing Day**
- **Industry-recognized Credential Assessment**

  Take at completion of Industry Credential Curriculum

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Post-secondary Work/ Training

Internship, Course-aligned practicum, Apprentice-ship, Job or Military

Pathways to Prosperity Network Update

On behalf of the Business Advisory Council, in the fall of 2018, the Montgomery County ESC joined the Pathways to Prosperity Network in support of implementing the council's goals. Pathways to Prosperity is an initiative of Jobs for the Future at the Harvard Graduate School of Education. Pathways to Prosperity's data-driven work is focused on creating meaningful career pathways for students who are eager to complete high school and earn a high-value credential or degree.

In October 2023, a working group will attend the 2023 Fall Pathways to Prosperity Institute. Our group will consist of superintendents and staff from Learn to Earn Dayton, as well as economic development professionals from the Dayton Area Chamber of Commerce and the Dayton Development Coalition. We will also be joined by a Montgomery County Commissioner as well. After the conclusion of the Fall Institute, we will convene our leaders and our Pathways to Prosperity support staff to meet in person with our Steering Committee members. This meeting will serve as an opportunity to better connect our BAC's committee co-chairs and update our regional partners.

Previously, our Pathways team assisted us in the execution of summer convening of local aerospace and aviation experts in the public and private sectors to help us begin our pathway model development. In the upcoming year we will continue this work to produce a quality pathway model for members of our BAC to use to inform student's decisions and preparation around careers in aerospace and aviation. These industry-led labs have been instrumental in the recent progress our BAC has made and we look forward to continuing them this school year.

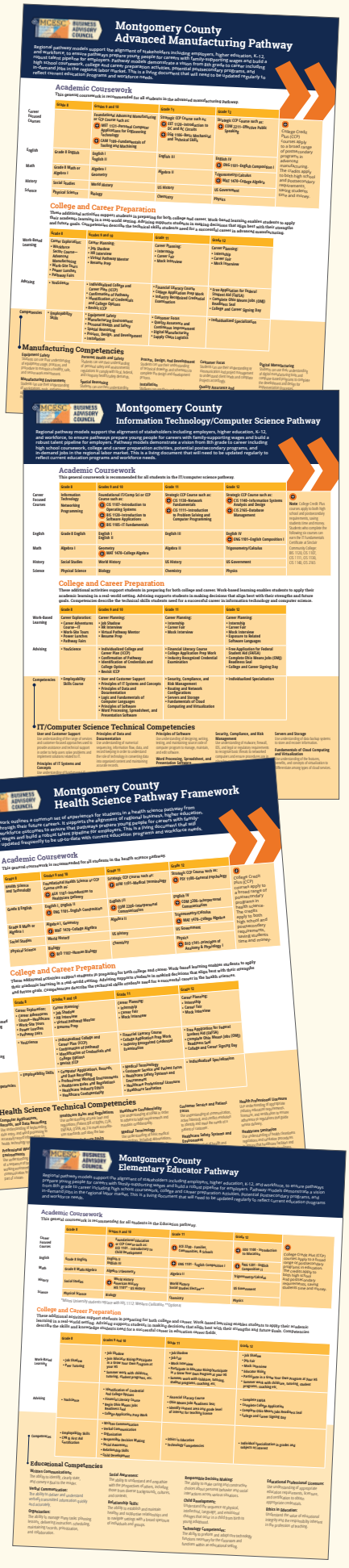
Pathway Implementation Labs

Our Business Advisory Council has focused on engaging our local business community in our pathway-strengthening efforts. Throughout 2022 and into 2023, we embarked on hosting strategic retreats called Design and Implementation Labs to further leverage our pathway models in Computer Science, Health Sciences, Manufacturing, and Elementary Education.

In the Design Labs districts bring together teams to design how to incorporate the pathways into their schools. Each district team audits their course offerings, work-based learning options, advising practices, and competency development opportunities to identify gaps that need to be addressed to fully implement the pathways.

The Implementation Labs then bring together industry, higher education, and K-12 partners to work together to identify resources and solutions to the gaps identified in the Design Labs. These sessions demonstrate the power of collaboration across sectors as the groups collectively address the identified barriers.

This school year, we will complete and release an aviation and aerospace pathway model and continue the Design and Implementation Labs to support the adoption of the pathways in our local districts. We will continue our focus on breaking down barriers and identifying resources that support districts in incorporating these in-demand pathways so we can provide a meaningfully career-connected pathway for students. For a closer examination of these model pathways, please see the index of this report.



Tackling the Hardest Challenges Facing our BAC

We continue to build on the last couple of years of momentum embracing national and state-sponsored Career Connections Weeks of Action. Utilizing local, statewide, and national resources, we produce content recommendations and a calendar with a general timeline of when districts could participate in these initiatives. We are continuing to lean into this regional approach to exposing students to careers. This is a living document so it will change as the year progresses but we are excited to leverage a regional strategy linked to proven annual efforts like MFG Month and National Health Professions Week. In 2023 and 2024, we are focusing on how to engage alumni and recent grads to serve as nearpeer voices in our week of action efforts. In 2023 and 2024, we intend to conduct outreach and engage these alumni to help facilitate and lead our career connections weeks of action. Another innovative focus of this year's plan is leveraging partners to identify and highlight local success stories so we can continue to showcase young people going into our region's in-demand sectors.

Some of our region's Coordinated Career Connections Weeks of Action include:

Construction Appreciation Week September

Manufacturing Month October

Health Professions Week November

Computer Science Education Week December

In-Demand Jobs Week May

BUSINESS ADVISORY COUNCIL DATES

BAC Main Meetings 2023/2024

September 18 9:00 am–10:30 am

November 15 1:00 pm–2:30 pm

February 21 5:00 pm–8:00 pm (Annual Dinner)

April 30 9:00 am–10:30 am

WORKING GROUP MEETINGS

Educator Engagement

September 26 9:00 am–10:30 am

November 27 9:00 am–10:30 am

February 13 11:00 am–12:30 pm

March 19 1:00 pm–2:30 pm

Industry Engagement

September 14 1:00 pm–2:30 pm

October 30 9:00 am–10:30 am

February 6 9:00 am–10:30 am

April 16 9:00 am–10:30 am

Parent & Community Engagement

September 14 9:00 am–10:30 am

October 16 1:00 pm–2:30 pm

January 11 9:00 am–10:30 am

April 11 9:00 am–10:30 am

Policy & Advocacy

October 18 1:00pm–2:30 pm

December 7 1:00pm–2:30 pm

February 7 1:00pm–2:30 pm

April 17 1:00pm–2:30 pm

Student Engagement

September 11 1:00 pm–2:30 pm

November 16 9:00 am–10:30 am

December 6 1:00 pm–2:30 pm

January 17 1:00 pm–2:30 pm

Warren County Working Group

October 6 9:00 am–10:30 am

December 1 9:00 am–10:30 am

February 2 9:00 am–10:30 am

April 5 9:00 am–10:30 am

The Way Forward

Building on our BAC plan each year, we're continuing to review who else needs to be at the table. We're leaning into student feedback and exploring how we can activate our students in creative new ways. Our region's young people are often misunderstood. We're working this year to continue to include them in this plan's design and outreach efforts. We firmly believe exposing students to potential careers where they can find both meaning and purpose will strengthen their interest in school and anchor them to long-term success later in their lives. We're already scheduling dozens of employer engagement events and we can't wait to see the success of this outreach!

A quick note on our 2023 Inside Dayton Summer Internship Program:

Over the summer, we convened our third cohort of students in a five-week, paid summer leadership program. Throughout this year's program, they met with elected leaders, industry professionals, community members, and more to learn about the future of our region and the jobs of tomorrow. We're grateful to the four Inside Dayton Fellows representing Sinclair College, Central State University, and Wright State University who helped serve as program coordinators and mentors for our high school interns. These students hailed from eight local schools and provided an important lens for this year's plan. To watch their final presentations please visit this recording of their recommendations: https://youtu.be/ToF4zkJ-34M?si=ExaqXWK5I88FDI_t. **You will find their voice is reflected in this plan!** We designed this innovative program as a way to strategically elevate student voices in the evolution of this plan and to inform our outreach efforts moving forward.

Employer Engagement Menu

MCESC
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CAREER AWARENESS

Field Trip Location
Grade 3+, 1.5 -2 hours/visit

Host students and/or counselors and teachers to tour your workplace and discuss career options, required education, a typical day, and more.

Classroom Speaker
Grades K-12, 30-90 minutes

Visit a school and talk with a class about what it means to work in your industry.

EXPLORATION

Job Shadow
Grades 6-8, 4-8 hours

Provide an opportunity for students to observe, discuss and participate in daily routines and activities for a particular job.

Power Lunches
Grades 6-8, 1-2 hours

Staff a table at a school during lunch hour to promote your industry and the current and next generation jobs in your career field.

Career Fair
Grades 6-12, 2-4 hours

Staff a booth to share advice on pursuing a career, skills and knowledge needed, and career roles and responsibilities.

PLANNING

Work-Based Learning
Grades 9-12, 6-8 weeks

Provide professional work experiences (an internship, pre-apprenticeship, or apprenticeship) that apply to classroom learning and builds skills.

Teacher Externship
Grades 9-12, 15-60 hours

Help teachers learn about careers for their students in your industry! Provide job shadowing, training, or similar experience that will help teachers bring workplace norms, tools and skills into the classroom.

EXTRA CREDIT

Informational Interview
Grades 6-12, 30-90 minutes

Answer student questions in person, by phone, email, or in a group about your profession or specific topic.

Resume Assistance/ Mock Interview
Grades 6-12, 1-2 hours

Provide feedback to students on their resumes and interview skills.

Other ideas?
Let us know other ways you'd like to get involved.

Name_____ Company_____ Title_____

Email _____ Phone_____ I'd like to participate in the BAC ☐ Yes ☐ No

Objectives

1) Student Engagement

For students to be well-equipped to make a career plan, they must be aware of the diverse career opportunities that exist locally and beyond and understand what it takes to prepare for these careers.

Schools must offer opportunities for career experiences for students both inside and outside of school and assist students in making appropriate plans for after high school.

Industry must provide career experiences that help students explore their career opportunities and help advise schools and students on how to move effectively toward careers.

2) Parent and Community Engagement

Our region is rich in career and educational opportunities, but our parents and community need to better understand how they can be advocates for students' success.

Schools must share with parents and the community what is already occurring to help prepare students for their futures. They must highlight the diversity of industries that can lead to successful careers.

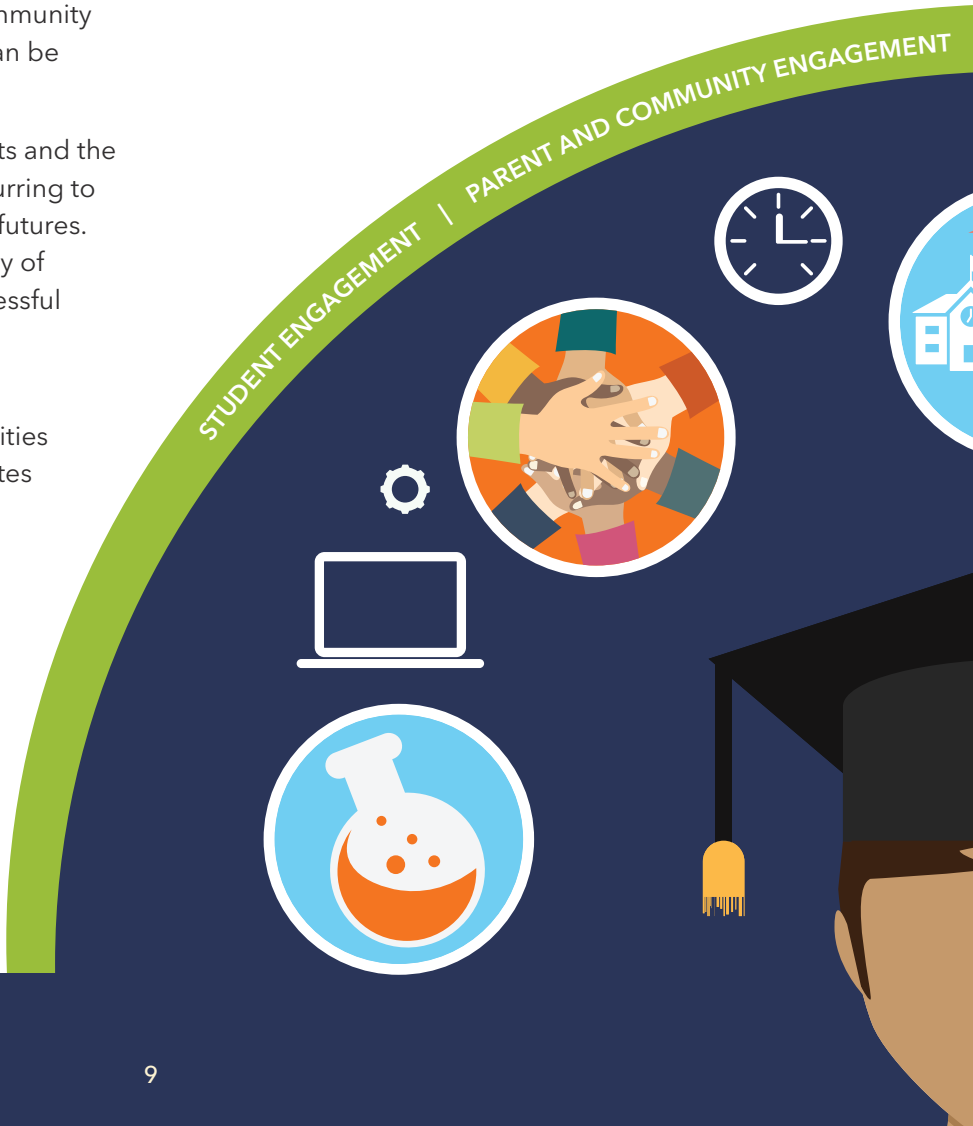
Industry must collaborate with schools to create opportunities for industry exposure that elevates the community's understanding of locally available careers.

3) Industry Engagement

For efficient and productive career experiences (i.e. internships, job shadowing, apprenticeships) to be feasible, we need a one-stop shop for industry and schools to connect.

Schools must provide flexibility in scheduling to allow students to participate in career experiences.

Industry must engage in meaningful partnerships and invest in opportunities for students to have career experiences while they are still in school.



4) Educator Engagement

Educators are well-positioned to guide our students on a path toward career success if they have the training, curriculum tools and support from industry to increase their own awareness, knowledge and skills to support students' career planning.

Schools must provide opportunities for educators to connect to careers and curriculum designed to give students experiences to help them design plans after high school.

Industry must invest time and resources in our region's career connections work while acknowledging the challenges educators face.

5) Policy and Advocacy

A statewide approach is critical in addressing the needs of an ever changing workforce landscape.

Schools must inform policymakers on the needs and challenges of K-12 partners.

Industry must inform policymakers on the specific needs of our future workforce.

6) Warren County Working Group

This special committee serves as a resource for Warren County member districts to apply the larger efforts of our BAC to their localized framework.

Student Engagement For students to be well-equipped to make a career plan, they must be aware of the diverse career opportunities that exist locally and beyond and understand what it takes to prepare for these careers.

Schools must offer opportunities for career experiences for students both inside and outside of school and assist students in making appropriate plans for after high school.

Industry must provide career experiences that help students explore their career opportunities and help advise schools and students on how to move effectively toward careers.

Strategy		Actions	Responsibility	Timeframe	Metric
1. Utilize social media to expand awareness of careers & educational opportunities	***Schools***	• Develop & deploy social media engagement plan in conjunction with County Communications Collaborative and Think TV as well as their aggregate College & Career Readiness Data • Plan to better leverage students in outreach efforts • Identify opportunities to partner with local interactive media study programs	• Student Engagement • Parent & Community Engagement • Educator Engagement • County Communications Collaborative • All Districts	Regularly present at County Communications Collaborative monthly meetings	• 81% of districts utilizing social media for career awareness
	Industry	• Provide info/photos/etc. for social media engagement	Chamber/Industry Orgs/BBB/DDC	Present a mid-school year review to the BAC via email in Jan. 2024	• We are continuing to produce social media content for schools to share about career opportunities
2. Increase the use of student aptitude and interest data	***Schools***	• Utilize YouScience/Naviance results in programmatic decision making and marketing opportunities • Support member districts in understanding their aggregate and individual student assessment results	MCESC/All Districts	Q2 2024	• 100% of all districts using YouScience, Naviance, OMJ, or some other assessment tool • Fully funded for member districts in 2022-2023 school year • # of districts making informed attendance recommendations for career exploration activities
	Industry	• Explore additional funding opportunities for long-term use of software like YouScience	DDC/Chamber/Trade Orgs		
3. Promote a student-facing information campaign with content that addresses in-demand industry sectors, college affordability, and post-secondary education	***Schools***	• Provide career exploration activity time (Power Lunch, Career Fair, guest speakers, etc) • Leverage Inside Dayton Internship Program recommendations and work with the Montgomery County Student Advisory Delegation for future feedback and input • Organize five Career Connections Weeks of Action	MCESC/All Districts	Q2 2024	• Host 1508 different activities across partner districts • 90% of districts participating in career connections weeks of action • Facilitate more than 476 partnerships with companies • Maintain a majority of businesses involved in the BAC to represent our region's in-demand sectors
	Industry	• Resource career activities (provide speakers, open for tours, etc.)	Trade Orgs/Businesses/MVHRA		
4. Create more career content for each of the local in-demand industry sectors	***Schools***	• Implement a Socratic seminar activity where the student outcomes are industry-directed questions and then work with industry to produce videos responding to those questions • Deploy content through classes and other communications channels	MCESC/All Districts	Q2 2024	• Create 10 locally produced career-related videos • 81% of member districts share career videos and content • Promote videos with 25 different careers • Content will include at least 9 different in-demand sectors and prominently feature younger employees
	Industry	• Identify companies and employers for student question response videos	Trade Orgs/Businesses/MVHRA/Think TV/Higher Ed institutions		
5. Focus on K-5 career connections outreach	***Schools***	• Develop K-5 student outreach strategies on a school by school basis utilizing our A to Z videos plus other partner resources • Each district will partner with industry to deploy an elementary school in-demand career awareness activity • Explore new funding opportunities for additional career exploration curriculum and resources for K-5 outreach	All Districts/MCESC/L2ED	Q2 2024	• 74% of partner school districts utilize K-5 career connection activities • # of career connections content Bitly website link clicks - In Progress
	Industry	Provide necessary information for outreach communications	Trade Orgs/Businesses		

Industry Engagement For efficient and productive career experiences (i.e. internships, job shadowing, apprenticeships) to be feasible, we need a one-stop shop for industry and schools to connect.

Schools must provide flexibility in schedules to allow students to participate in career experiences.

Industry must engage in meaningful partnerships and invest in opportunities for students to have career experiences while they are in school.

Strategy		Actions	Responsibility	Timeframe	Metric
1. Spread the word on resources available to employers with the goal of assisting them in engaging with schools across the region	***Schools***	• Develop instructions on a district-by-district basis for opportunities for employers to engage with students	MCESC/All Districts	Q4 2024	• 50% of districts have published employer engagement instructions on their website
	Industry	• Utilize resources that house information on K-12 workforce pathways and how to connect with schools for career engagement • Track companies engaging through outreach application form and notify relevant partners • Continue to provide feedback on the resources available	Trade Organizations/ SOCHE (e.g. SOCHE employer webpage; Technology First, Dayton Region Manufacturer's Association, Dayton Area Logistics Association; Dayton Area Chamber, etc)		• 50 employers from regional Trade Associations complete outreach application to engage with school districts
2. Develop partnerships which will provide opportunities for career connections opportunities	***Schools***	• Develop and prepare career connection opportunities in order to connect with employers who are ready to engage	MCESC/All Districts	Q4 2024	• 50% of districts have published employer engagement instructions on their website
	Industry	• Build workforce development sub-committees in each in-demand industry group to discuss and participate in career connection opportunities and participate in other MCESC BAC subcommittees • Host work-based learning information sessions with companies that have well-established programs and companies that are interested in developing student-facing opportunities • Utilize the career engagement form to partner with schools in the region • Work with Trade Associations to engage with Schools and utilize a sustainable process to build workforce	SOCHE/Businesses/Trade Associations		• Establish committees in all Trade Associations and host 3 work-based learning information sessions with trade association employers; Sign up 50 businesses through career engagement form
3. Increase industry participation in career connection opportunities	***Schools***	• BAC districts will complete BAC Mid-Year Review survey and share elementary, middle, and high school career readiness efforts • Each BAC district will share with Industry Engagement Subcommittee how they leverage OMJ Readiness Seal or other practices they employ to prepare students for WBL opportunities	MCESC/All Districts	Q2 2024	• 100% of BAC districts have created a plan for how their students will engage in career connection opportunities
	Industry	• Analyze internal operations to determine areas within their organizations that can benefit from an intern • Develop and deploy a promotional campaign plan to engage students in work-based learning opportunities	• SOCHE/Businesses/ Trade Associations		• Engage with 600 students

Parent & Community Engagement Our region is rich in career and educational opportunities, but our parents and community need to better understand how they can be advocates for students' success.

Schools must share with parents and the community what is already occurring to help prepare students for their futures. They must highlight the diversity of industries that can lead to successful careers.

Industry must collaborate with schools to create opportunities for industry exposure that elevates the community's understanding of the careers available locally.

Strategy		Actions	Responsibility	Timeframe	Metric
1. **Leverage all available career connections content to ensure BAC districts have access to the full portfolio of resources**	***Schools***	• Develop a plan for storing, organizing, and ensuring access to career connections content • Design a content calendar to align with local and state career connections initiatives and events	All Districts, County Communications Collaborative	Q1 2024	• Complete plan • Design Content Calendar • Share portfolio
	Industry	• Provide career connections content	Think TV, Chamber, Industry Orgs, DDC	Q4 2024	
2. **Utilize career connections content to expand awareness of careers & educational opportunities**	***Schools***	• Develop & deploy a career connections engagement plan for parents/guardians and community organizations	• Student Engagement • Parent & Community Engagement • Educator Engagement • County Communications Collaborative • All Districts	Regularly present at County Communications Collaborative monthly meetings	• 75% of member districts share career connections content • Track traditional media coverage
	Industry	• Provide industry data, success stories, and photos, to support communications teams with parent and community outreach • Develop a plan to capture and organize industry success stories • Leverage traditional media partners to share career connections successes and messaging	Chamber/Industry Orgs/ DDC	Present a mid-school year review to the BAC via email in January 2024	

Parent & Community Engagement *continued*

3. Promote an information campaign that addresses the importance of work-based learning and how to leverage career assessment data from a parent and community perspective	***Schools***	• Deploy content through official school communications channels, other media campaigns, and community groups • Create a shareable Google Sheet career connections content calendar	MCESC/All Districts	Q2 2024	• 75% of districts utilizing career connections content • 75% of districts are conducting K-5 career connection outreach • # of stories shared • % of districts utilizing career connections content
	Industry	• Provide videos, events, and other resources • Develop two positive stories to highlight how career assessments led to work-based learning that informed decision plans after graduation • Develop a positive story that shows how industry is using career assessment tools to inform their hiring and recruitment strategies	Trade Orgs/Businesses/ MVHRA/Think TV/ Higher Ed institutions		
4. Focus on K-5 career connections outreach	***Schools***	• Develop K-5 parent outreach strategies on a school by school basis using events like "Dress for Success" utilizing age-appropriate career exploration curriculum • Create parent-facing communications highlighting next steps for after outreach activities provided by BAC member districts	L2ED/MCESC	Q2 2024	• 75% of districts are conducting K-5 career connection outreach
	Industry	• Provide necessary information for outreach communications • Provide examples of hands-on, age-appropriate K-5 career exploration activities provided by BAC member districts • Explore strategies to include diverse industry partners and caregivers present in career connection events	Trade Orgs/Businesses/ MVHRA/Think TV/ Higher Ed institutions		
5. Organize outreach to alumni and recently graduated seniors	***Schools***	• Conduct outreach and highlight alumni via digital and physical marketing like posters and social media • Focus on outreach to grandparents during career connections weeks of action • Explore strategies to include young professional alumni and recent grads to present in career connection events	MCESC/All Districts	Q2 2024	• 50% of districts are actively highlighting alumni and recent graduates
	Industry	• Provide necessary information for outreach material	Trade Orgs/Businesses/ MVHRA/Think TV/ Higher Ed institutions		

Policy and Advocacy A statewide approach is critical in addressing the needs of an ever changing workforce landscape.

Schools must inform policymakers on the needs and challenges of K-12 partners.

Industry must inform policymakers on the specific needs of our future workforce.

Strategy		Actions	Responsibility	Timeframe	Metric
1. Create a policy agenda to guide our efforts for the 2023-2024 school year	***Schools***	• To support and reinforce the science of reading in all P-5 classrooms • To support FAFSA completion as a mandatory requirement for graduation, with an opt-out option	All districts	Create an initial agenda with key policy priorities for Q2 2024	• Creation of a policy agenda
	Industry	• To provide feedback on workforce needs and possible policy and legislative language changes • Create a plan of action to educate local employers on these specific agenda items	Chamber/Industry Orgs/DDC		
2. Support policies that address our state's digital divide and online access issues	***Schools***	• Partner with key stakeholders to eliminate digital divide and online access barriers, especially for students in economically challenged school environments	All districts	Q2 2024	• Ensure the coordination of regional partners around digital equity
	Industry	• Maintain and enhance ongoing support for existing public/private partnerships	Chamber/Industry Orgs/DDC		
3. Provide real-world and school-based examples or success stories for future policies and/or renewals	***Schools***	• Document local best practice employers to feature high-quality work-based learning experiences	All districts/ BAC Industry Engagement Subcommittee	Q2 2024	• Document and share WBL opportunities in our region via qualitative and/or quantitative methods
	Industry	• Identify pragmatic incentives and policies to increase employer participation in work-based learning opportunities	Chamber/Industry Orgs/DDC		
4. Ensure stakeholder access to community workforce data	***Schools***	• Define what datasets would help build capacity for schools to understand if equity or opportunity gaps exist • Where equity gaps exist, define strategies to close those identified gaps	All districts	Q2 2024	• Implement and highlight strategies that enhance access to workforce data
	Industry	• Explore, measure, and disaggregate college credit attainment, industry recognized credential attainment, and Ohio Means Jobs readiness seal attainment	Chamber/Industry Orgs/DDC		

Educator Engagement Educators are well-positioned to guide our students on a path toward career success if they have the training, curriculum tools and support from industry to increase their own awareness, knowledge and skills to support students' career planning.

Schools must provide opportunities for educators to connect to careers and curriculum designed to give students experiences to help them design plans after high school.

Industry must invest time and resources in our region's career connections work while acknowledging the challenges educators face.

Strategy		Actions	Responsibility	Timeframe	Metric
1. Provide guidance and support for work-based learning	*Schools*	Determine and promote MCESC BAC operational definitions of Work-Based Learning	Educator Engagement and Industry Engagement Subcommittee	May 2024 focus on our established career pathways	• # of districts receiving support
		Provide and support the implementation of Work-Based Learning Resources (Guidance documents, OMJ readiness seal, pre-apprenticeships, job shadowing, etc.)	Educator Engagement Team, with ODE Representative	May 2024 focus on established career pathways	• # of districts with established healthcare work-based learning opportunities
	Industry	Partner with schools to help plug identified gaps with industry-relevant opportunities (speakers, tours, lunches, projects, etc)	TBD as gaps are identified	May 2024 focus on established career pathways	• Partner with 100% of districts in a one on one meeting to discuss industry-relevant opportunities
2. Utilize data to drive decision and increase career readiness across the educational continuum	*Schools*	Share Learn to Earn Indicators, Career Readiness Survey Data, and Snapshot Data with Career Champions, Counselors, Building Admin, MVRCD, Teachers	MCESC/L2ED Staff & Educator Engagement Team	Annually	• Meet with 10 districts
		Meet with ten districts to review their career connections related data and brainstorm potential areas of collaboration			
3. Expand authentic experiences and activities connected to careers	*Schools*	Leverage and promote career activities and tasks that align with content standards (technical and employability skills)	All districts, MCESC staff	2023-2024 Academic Year	• Track # of schools implementing K-12 Career Connections Experiences
		Promote careers within each Industry Cluster, by generating resources and activities for one week's worth of programming for each cluster	All districts, MCESC staff	2023-2024 Academic Year	• Creation of (1) week of programming for each cluster
		Host quarterly Career Champions/Counselors Meetings with Industry Tours	All districts, MCESC staff	2023-2024 Academic Year	• Host 4 quarterly meetings
		Host Teacher Industry Experience	All districts, MCESC staff	2023-2024 Academic Year	• Host 4 teacher industry experiences
	Industry	Attend focus groups to develop career activity ideas and identify career alignment with content standards Host Industry Tours and Experiences	Chamber & Trade Orgs to identify key employers to participate	2023-2024 Academic Year	• Track # of focus groups
4. Create plug and play structural course alignment options for workforce sectors	*Schools*	Host Career Pathway Design Lab and Industry-Specific Implementation Labs	MCESC & L2ED in coordination with the Educator Engagement Team	2023-2024 Academic Year	• Host Implementation Lab
	Industry	Partner with schools in the Career Pathway Design Lab process	Chamber, Trade Orgs & Key business leads in identified pathways	2023-2024 Academic Year	• Name of partners participating

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MCESC Montgomery County Educational Service Center | Business Advisory Council

Montgomery County
Information Technology/Computer Science Pathway

Regional pathway models support the alignment of stakeholders including employers, higher education, K–12, and workforce, to ensure pathways prepare young people for careers with family-supporting wages and build a robust talent pipeline for employers. Pathway models demonstrate a vision from 8th grade to career including high school coursework, college and career preparation activities, potential postsecondary programs, and in-demand jobs in the regional labor market. This is a living document that will need to be updated regularly to reflect current education programs and workforce needs.

Academic Coursework

This general coursework is recommended for all students in the IT/computer science pathway.

	Grade 8	Grades 9 and 10	Grade 11	Grade 12
Career Focused Courses	Information Technology Networking Programming	Foundational IT/Comp Sci or CCP Course such as: ⊕ CIS 1107–Introduction to Operating Systems ⊕ BIS 1120–Introduction to Software Applications ⊕ BIS 1105–IT Fundamentals	Strategic CCP Course such as: ⊕ CIS 1130–Network Fundamentals ⊕ CIS 1111–Introduction to Problem Solving and Computer Programming	Strategic CCP Course such as: ⊕ CIS 1140–Information Systems Analysis and Design ⊕ CIS 2165–Database Management
English	Grade 8 English	English I English II	English III	English IV ⊕ ENG 1101–English Composition I
Math	Algebra I	Geometry ⊕ MAT 1470–College Algebra	Algebra II	Trigonometry/Calculus
History	Social Studies	World History	US History	US Government
Science	Physical Science	Biology	Chemistry	Physics

⊕

Note: College Credit Plus courses apply to both high school and postsecondary requirements, saving students time and money. Students who complete the following six courses can earn the IT Fundamentals Certificate at Sinclair Community College: BIS 1120, CIS 1107, CIS 1111, CIS 1130, CIS 1140, CIS 2165

College and Career Preparation

These additional activities support students in preparing for both college and career. Work-based learning enables students to apply their academic learning in a real-world setting. Advising supports students in making decisions that align best with their strengths and future goals. Competencies describe the technical skills students need for a successful career in information technology and computer science.

	Grade 8	Grades 9 and 10	Grade 11	Grade 12
Work-Based Learning	Career Exploration: • Career Adventures Course—IT • Work-Site Tours • Power Lunches • Pathway Fairs	Career Planning: • Job Shadow • HR Interview • Virtual Pathway Mentor • Resume Prep	Career Planning: • Internship • Career Fair • Mock Interview	Career Planning: • Internship • Career Fair • Mock Interview • Exposure to Related Software Languages
Advising	• YouScience	• Individualized College and Career Plan (ICCP) • Confirmation of Pathway • Identification of Credentials and College Options • Revisit ICCP	• Financial Literacy Course • College Application Prep Work • Industry Recognized Credential Examination	• Free Application for Federal Student Aid (FAFSA) • Complete Ohio Means Jobs (OMJ) Readiness Seal • College and Career Signing Day
Competencies	• Employability Skills Course	• User and Customer Support • Principles of IT Systems and Concepts • Principles of Data and Documentation • Logic and Fundamentals of Computer Languages • Principles of Software • Word Processing, Spreadsheet, and Presentation Software	• Security, Compliance, and Risk Management • Routing and Network Configurations • Servers and Storage • Fundamentals of Cloud Computing and Virtualization	• Individualized Specialization

IT/Computer Science Technical Competencies

User and Customer Support
Use understanding of the range of services and customer-focused approaches used to provide assistance and technical support in order to help users solve problems and implement solutions related to IT.

Principles of IT Systems and Concepts
Use understanding of fundamental IT concepts, systems, platforms, and tools to understand the common roles and career trajectories of IT professionals.

Principles of Data and Documentation
Use understanding of numerical sequencing, information flow, data, and record keeping in order to understand the role of technology in converting data into organized content and maintaining accurate records.

Logic and Fundamentals of Computer Languages
Use understanding of how computer languages communicate to build basic mobile and web applications.

Principles of Software
Use understanding of designing, writing, testing, and maintaining source code of computer program to manage, maintain, and edit software.

Word Processing, Spreadsheet, and Presentation Software
Use understanding of Microsoft Office and Google Suite to create written documents, organize data, and develop visual presentations.

Security, Compliance, and Risk Management
Use understanding of malware, firewall, IDS, and legal or regulatory requirements to recognize basic threats to networked computers and ensure procedures are in place for compliance.

Routing and Network Configurations
Use understanding of common networking protocols to explain the purpose of routing, monitoring, and network configurations.

Servers and Storage
Use understanding of data backup systems to store and recover information.

Fundamentals of Cloud Computing and Virtualization
Use understanding of the features, benefits, and concepts of virtualization to differentiate among types of cloud services.

Selected Postsecondary Options

The selected postsecondary credentials in IT/computer science are based on program options and transfer agreements at Sinclair Community College. Some education paths have credentials that easily stack or build from the previous credential, while others are not as easily stackable. Stackable credentials can help an individual progress in their career pathway or move up a career ladder to different or higher paying jobs. Within the fields of IT and computer science, a particular education credential can prepare students for a variety of occupations.

	Potential Initial Credential	Stackable Credentials		Typical Occupational Outcome
Computer Information Technology	• CompTIA A+ • CompTIA IT Fundamentals+	• Computer Information Systems—User Support Associate of Applied Science Students eligible to take the following certification exams: A+, Network+, Security+, MCSA Exam TestOut Client Pro	• Computer Information Systems Bachelor of Science	• Computer Network Support Specialist • Computer User Support Specialist
	• CompTIA IT Fundamentals+ • CompTIA A+ • CCENT • Network+ • MTA	• Computer Information Systems—Network Engineering Associate of Applied Science Students eligible to take the following certification exams: CCNA, Security+, A+*, MCSA Exam TestOut Server Pro 2016: Install and Storage* *This credential is connected to an optional elective course, students need to take that specific elective in order to take the certification exam.		• Network Administrator • Network Security Analyst • Network Engineer
	• CompTIA IT Fundamentals+ • MTA • CompTIA A+ • OCAJ	• Computer Information Systems—Software Development Associate of Applied Science Students eligible to take the Network+ certification exam		• Software Developer • Web Developer • Help Desk Analyst • Network Administrator • User Support Specialist • Network Security Analyst • Network Engineer
Cybersecurity: Prevention and Investigation Technology	• CompTIA IT Fundamentals+ • CompTIA A+ • MTA	• Computer Information Systems—Secure System Administration Associate of Applied Science Students eligible to take the following certification exams: Network+, Linux+, Security+, MCSA Exam TestOut Server Pro 2016: Install and Storage, MCSA Exam TestOut Server Pro 2016: Networking, MCSA Exam TestOut Server Pro: Identify, Securing Windows Network Environment 2016 Exam	• Information Technology and Cybersecurity Bachelor of Science	• Cybersecurity Analyst/Technician • Cyber Crime Analyst/Investigator • Incident Analyst/Responder • IT Auditor
	• CompTIA IT Fundamentals+	• Cyber Investigation Technology Associate of Applied Science Students eligible to take the following certification exams: A+, Network+, Linux+, Security+, MCSA Exam TestOut Server Pro 2016: Install and Storage, Securing Windows Network Environment 2016 Exam		• Intelligence Analyst • IT Specialist • Systems Administrator • Network Engineer • Information System Security Manager • Cyber Security Incident Response Specialist • Private Investigator
Guided Transfer	• CompTIA IT Fundamentals+ • CompTIA A+ • CompTIA Security+	• Computer Science Associate of Science	• Computer Science Bachelor of Science	• Software Developer • Software Engineer • Data Engineer

Selected Occupations, Wages, and Job Growth

The IT and computer science careers listed below are projected to grow in the region. The living wage ($23.16/hour) is from the MIT Living Wage Calculator for one adult and one child in Montgomery County in 2021. Note that all occupations included have median hourly earnings above a living wage, but that some jobs have a large pay range; this means that employees who have less experience, credentials, and skills can be paid significantly less than the median wage, which can be seen in the "entry level wages" column. The last column shows national data on how many workers in these positions have a bachelor's degree or higher, indicating that for some positions, a four-year degree is an important credential.

		Pays Living Wage ($23.16)			Expected Growth (2020–2025)			*National data
Typical Job	Alternate Job Titles	Median Hourly Earnings	Entry Level Wages	Positions (2020)	Positions	Percent	Typical Work Experience Required	Workers with a Bachelor's or Higher*
Software Developers	• Application Developers • Systems Engineer	$44.13	$26.68	5,561	646	12%	None	85%
Computer Systems Analysts	• Information Technology Analyst	$42.09	$26.36	1,740	127	7%	None	73%
Computer and Information Systems Managers	• Application Development • Director IT Director	$63.86	$41.01	943	92	10%	5+ Years	73%
Computer User Support Specialists	• Desktop Support Technician • Help Desk Analyst	$25.39	*$15.82*	2,129	71	3%	None	48%
Information Security Analysts	• Information Security Officer • Network Security Analyst	$47.61	$27.32	373	65	17%	Less Than 5 Years	67%
Network and Computer Systems Administrators	• Network Administrator • Systems Administrator	$37.41	$23.56	955	27	3%	None	54%
Computer Network Architects	• Network Analyst • Network and Security Engineer	$43.36	$28.72	293	23	8%	5+ Years	57%
Web Developers	• Web Designer • Webmaster	$38.45	*$21.03*	750	6	1%	None	68%

This document was developed by JFF, Learn to Earn Dayton, and the Montgomery County ESC. Special thanks to Sinclair Community College and the Technology First Workforce Committee for your feedback and contributions.

MCESC Montgomery County Educational Service Center | Business Advisory Council

Montgomery County Health Science Pathway

Regional pathway models support the alignment of stakeholders including employers, higher education, K–12, and workforce, to ensure pathways prepare young people for careers with family-supporting wages and build a robust talent pipeline for employers. Pathway models demonstrate a vision from 8th grade to career including high school coursework, college and career preparation activities, potential postsecondary programs, and in-demand jobs in the regional labor market. This is a living document that will need to be updated regularly to reflect current education programs and workforce needs.

Academic Coursework

This general coursework is recommended for all students in the health science pathway.

	Grade 8	Grades 9 and 10	Grade 11	Grade 12
Career Focused Courses	Health Science and Technology	Foundational Health Science or CCP Course such as: ⊕ ALH 1101–Introduction to Healthcare Delivery	Strategic CCP Course such as: ⊕ HIM 1101–Medical Terminology	Strategic CCP Course such as: ⊕ PSY 1100–General Psychology
English	Grade 8 English	English I, English II ⊕ ENG 1101–English Composition	English III ⊕ COM 2206–Interpersonal Communication	English IV ⊕ COM 2206–Interpersonal Communication
Math	Grade 8 Math or Algebra I	Algebra I, Geometry ⊕ MAT 1470–College Algebra	Algebra II	Trigonometry/Calculus ⊕ MAT 1470–College Algebra
History	Social Studies	World History	US History	US Government
Science	Physical Science	Biology ⊕ BIO 1107–Human Biology	Chemistry	Physics ⊕ BIO 1141–Principles of Anatomy & Physiology I

⊕ College Credit Plus (CCP) courses apply to a broad range of postsecondary programs in health science. The credits apply to both high school and postsecondary requirements, saving students time and money.

College and Career Preparation

These additional activities support students in preparing for both college and career. Work-based learning enables students to apply their academic learning in a real-world setting. Advising supports students in making decisions that align best with their strengths and future goals. Competencies describe the technical skills students need for a successful career in the health sciences.

	Grade 8	Grades 9 and 10	Grade 11	Grade 12
Work-Based Learning	Career Exploration: • Career Adventures Course—Healthcare • Work-Site Tours • Power Lunches • Pathway Fairs	Career Planning: • Job Shadow • HR Interview • Virtual Pathway Mentor • Resume Prep	Career Planning: • Internship • Career Fair • Mock Interview	Career Planning: • Internship • Career Fair • Mock Interview
Advising	• YouScience	• Individualized College and Career Plan (ICCP) • Confirmation of Pathway • Identification of Credentials and College Options • Revisit ICCP	• Financial Literacy Course • College Application Prep Work • Industry Recognized Credential Examination	• Free Application for Federal Student Aid (FAFSA) • Complete Ohio Means Jobs (OMJ) Readiness Seal • College and Career Signing Day
Competencies	• Employability Skills	• Computer Applications, Records, and Data Recording • Professional Working Environments • Healthcare Rules and Regulations • Healthcare Industry Ethics • Healthcare Confidentiality	• Medical Terminology • Customer Service and Patient Focus • Healthcare Safety Systems and Environment • Healthcare Professional Licensure • Healthcare Sanitation	• Individualized Specialization

Health Science Technical Competencies

Computer Applications, Records, and Data Recording
Use understanding of keyboarding, data entry, and word processing to accurately record information on health technology systems.

Professional Working Environments
Use understanding of the importance of a sequence of tasks, cross-functional working environments, and professional communication to successfully work as part of a team.

Healthcare Rules and Regulations
Use understanding of basic laws and regulations (Patient Bill of Rights, CLIA, EMTALA, OSHA, etc.) to meet accreditation standards and obey the law.

Healthcare Industry Ethics
Use understanding of confidentiality, morality, and legal concepts to evaluate and apply the merits, risks, and social concerns to workplace decisions.

Healthcare Confidentiality
Use understanding of HIPAA in order to adhere to legal requirements and maintain confidentiality.

Medical Terminology
Use understanding of basic medical terminology, including abbreviations, acronyms, and diagnostic terms, to communicate effectively with healthcare personnel and patients.

Customer Service and Patient Focus
Use understanding of communication, active listening, and conflict resolution to identify and meet the needs of a patient or customer.

Healthcare Safety Systems and Environment
Use understanding of health and safety procedures and protocols to ensure a safe, secure, and healthy work environment.

Health Professional Licensure
Use understanding of appropriate industry education requirements, licensure, and certification to ensure adherence to regulations that guide service delivery.

Healthcare Sanitation
Use understanding of health cleanliness regulations and sanitation procedures to ensure that healthcare facilities and tools meet standards for cleanliness.

Selected Postsecondary Options

The selected postsecondary credentials in health science are based on program options and transfer agreements at Sinclair Community College. Some education paths have credentials that easily stack or build from the previous credential, while others are not as easily stackable. Stackable credentials can help an individual progress in their career pathway or move up a career ladder to different or higher paying jobs.

	Potential Initial Credential	Stackable Credentials			Typical Occupational Outcome
Allied Health	Radiographer	Associate of Applied Science in Radiologic Technology—students eligible to take the ARRT exam	Advanced Imaging Certifications e.g.: Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and Mammography Bachelor of Radiation Science Technology Bachelor of Science in Healthcare Administration		Radiologic Technician
	State Tested Nurse Aide (STNA)	Associate of Applied Science in Respiratory Care	Bachelor of Science in Respiratory Care Bachelor of Health Sciences Bachelor of Science in Healthcare Administration		Respiratory Therapist
	Certified Dental Assistant	Associate of Applied Science in Dental Hygiene—students eligible to take state board exams and apply for state licensing	Expanded Function Dental Auxiliary (EFDA) Continuing Education Programs e.g.: Local Anesthesia and Nitrous Oxide for Dental Hygiene		Dental Hygienist
Nursing	State Tested Nurse Aide (STNA) Licensed Practical Nurse (LPN)	Associate of Applied Science (AAS) in Nursing—students eligible to take RN exam	Bachelor of Science in Nursing (BSN)	Master of Science in Nursing (MSN)	Nurse
Guided Transfer (pre-med, pre-dentistry, or other advanced degree track)	State Tested Nurse Aide (STNA)	Associate of Science in Pre-Professional Studies	Bachelor of Science	Doctoral Degree	Physician (Doctor or Dentist)

Selected Occupations, Wages, and Job Growth

The health science careers listed below are projected to grow in the region. The living wage ($23.16/hour) is from the MIT Living Wage Calculator for one adult and one child in Montgomery County in 2021. Note that some jobs in the table do not pay a living wage and do not easily stack to further credentials, making economic advancement difficult.

						Expected Growth (2020–2030)	
Typical Job	Pays Living Wage ($23.16)	Median Hourly Earnings	Preferred Education	Stackable Credential	Positions (2020)	Positions	Percent
Home Health and Personal Care Aides	No	$11.33	Short-Term Home Health Aide Certificate	Not typically stackable	3,458	860	25%
Medical Assistants		$16.53	Medical Assistant Technology (AAS)		1,701	432	25%
Emergency Medical Technicians and Paramedics		$16.53	Emergency Medical Services (AAS)		502	159	32%
Phlebotomists		$16.85	Short-Term Phlebotomy Certificate		742	144	19%
Medical and Health Services Managers	Yes	$47.22	Health Information Management/ Administration (BS)	Health Administration (MS)	808	116	14%
Respiratory Therapists		$28.60	Respiratory Care (AAS)	Respiratory Care (BS)	584	71	12%
Radiologic Technicians		$28.24	Radiographic Technology (AAS)	Radiation Science Technology (BS)	626	43	7%
Diagnostics Medical Sonographers		$35.77	Diagnostic Medical Sonography (AAS)	Diagnostic Medical Sonography (BS)	284	39	14%
Dental Hygienists		$34.00	Dental Hygiene (AAS)	Expanded Function Dental Auxiliary (EFDA) License	644	20	3%
Registered Nurses	Yes	$32.61	Nursing (BS)	Nursing (MS)	10,190	611	6%
Nurse Practitioners		$51.02	Nursing (MS)	Terminal degree for this occupation	672	174	26%
Physicians	Yes	$101.08	Doctor of Medicine (MD)	Terminal degree for this occupation	1,220	141	12%

document was developed by JFF, Learn to Earn Dayton, and the Montgomery County ESC. Special thanks to the Greater Dayton Area Hospital Association (GDAHA) cation Subcommittee and Sinclair Community College for your feedback and contributions.

MCESC Montgomery County Educational Service Center — Business Advisory Council

Montgomery County Advanced Manufacturing Pathway

Regional pathway models support the alignment of stakeholders including employers, higher education, K–12, and workforce, to ensure pathways prepare young people for careers with family-supporting wages and build a robust talent pipeline for employers. Pathway models demonstrate a vision from 8th grade to career including high school coursework, college and career preparation activities, potential postsecondary programs, and in-demand jobs in the regional labor market. This is a living document that will need to be updated regularly to reflect current education programs and workforce needs.

Academic Coursework

This general coursework is recommended for all students in the advanced manufacturing pathway.

	Grade 8	Grades 9 and 10	Grade 11	Grade 12
Career Focused Courses		Foundational Advanced Manufacturing or CCP Course such as: ⊕ MET 1131–Personal Computer Applications for Engineering Technology ⊕ CAM 1109–Fundamentals of Tooling and Machining	Strategic CCP Course such as: ⊕ EET 1120–Introduction to DC and AC Circuits ⊕ EGR 1106–Basic Mechanical and Technical Skills	Strategic CCP Course such as: ⊕ COM 2211–Effective Public Speaking
English	Grade 8 English	English I English II	English III	English IV ⊕ ENG 1101–English Composition I
Math	Grade 8 Math or Algebra I	Algebra I Geometry	Algebra II	Trigonometry/Calculus ⊕ MAT 1470–College Algebra
History	Social Studies	World History	US History	US Government
Science	Physical Science	Biology	Chemistry	Physics

⊕ College Credit Plus (CCP) courses apply to a broad range of postsecondary programs in advanced manufacturing. The credits apply to both high school and postsecondary requirements, saving students time and money.

College and Career Preparation

These additional activities support students in preparing for both college and career. Work-based learning enables students to apply their academic learning in a real-world setting. Advising supports students in making decisions that align best with their strengths and future goals. Competencies describe the technical skills students need for a successful career in advanced manufacturing.

	Grade 8	Grades 9 and 10	Grade 11	Grade 12
Work-Based Learning	Career Exploration: • Workforce Sector Course—Advanced Manufacturing • Work-Site Tours • Power Lunches • Pathway Fairs	Career Planning: • Job Shadow • HR Interview • Virtual Pathway Mentor • Resume Prep	Career Planning: • Internship • Career Fair • Mock Interview	Career Planning: • Internship • Career Fair • Mock Interview
Advising	• YouScience	• Individualized College and Career Plan (ICCP) • Confirmation of Pathway • Identification of Credentials and College Options • Revisit ICCP	• Financial Literacy Course • College Application Prep Work • Industry Recognized Credential Examination	• Free Application for Federal Student Aid (FAFSA) • Complete Ohio Means Jobs (OMJ) Readiness Seal • College and Career Signing Day
Competencies	• Employability Skills	• Equipment Safety • Manufacturing Environment • Personal Health and Safety • Spatial Reasoning • Process, Design, and Development • Installation	• Customer Focus • Quality Assurance and Continuous Improvement • Digital Manufacturing • Supply Chain Logistics	• Individualized Specialization

Manufacturing Competencies

Equipment Safety
Students can use their understanding of equipment usage, practices, and procedure to maintain a healthy, safe, and secure work environment.

Manufacturing Environment
Students can use their understanding of workstations, tools, and equipment operations to safely navigate a manufacturing environment.

Personal Health and Safety
Students can use their understanding of personal safety and environmental regulations to comply with local, federal, and company health/safety demands.

Spatial Reasoning
Students can use their understanding of objects in relation to one another to understand three-dimensional imaging.

Process, Design, and Development
Students can use their understanding of technical drawings and schematics to complete the design and development process.

Installation
Students can use their understanding of tools to assemble and disassemble simple tools.

Customer Focus
Students can use their understanding of communication and project management to understand client needs and complete projects accordingly.

Quality Assurance and Continuous Improvement
Students can use their understanding of product and process to meet quality systems requirements as defined by customer specifications.

Digital Manufacturing
Students can use their understanding of digital manufacturing tools and computer-based programs to complete the development and design for implementation processes.

Supply Chain Logistics
Students can use their understanding of materials, suppliers, and internal systems to plan and monitor movement and storage of materials and products.

elected Postsecondary Options

e selected postsecondary credentials in advanced manufacturing are based on program options and transfer agreements at Sinclair Community lege, except for the welding program, offered through Hobart Institute. Some education paths have credentials that easily stack or build from the vious credential, while others are not as easily stackable. Stackable credentials can help an individual progress in their career pathway or move a career ladder to different or higher paying jobs.

	Initial Credentials	Stackable Credentials	Potential Occupational Outcome
gineering chnology	• **Industrial Engineering Technology Associate of Applied Science** Students eligible to take the following certification exam: Six Sigma Green Belt Certification	• **Bachelor of Science in Industrial Engineering Technology** (with additional transfer courses)	• **Engineering Technicians** • **Quality Control Technicians** • **Production Supervisors** • **Continuous Improvement Specialists**
	• **Mechanical Engineering Technology Associate of Applied Science** Students eligible to take the following certification exam: Certified SolidWorks Associate (CSWA) IRC	• **Bachelor of Science in Mechatronics Engineering** • **Bachelor of Science in Mechanical and Manufacturing Engineering Technology**	• **Mechanical Engineering Technicians**
	• **Automation and Control Technology with Robotics** Students eligible to take the following certification exam: FANUC Handling Tool		• **Control System Technician and Designer** • **Systems Engineering Technician** • **Industrial Equipment Professional**
Welding (Hobart Institute)	• **Pathway Welding Program** Students eligible to take four nationally recognized certifications: AWS® D1.1 Shielded Metal Arc Welding AWS® D1.1 Flux Cored Arc Welding AWS® D1.6 Gas Tungsten Arc AWS® D1.1 Gas Metal Arc Welding Pulsed Spray Transfer	• **Welder-Fabricator Pathway** Students eligible to take two additional nationally recognized certifications: AWS® D1.1 Gas Metal Arc Welding Pulsed Spray 3G AWS® D1.1 Flux Cored Arc Welding Self-shielded	• **Welder**
Computer Aided Manufacturing	• **Computer Aided Manufacturing/CNC Technology Associate of Applied Science**		• **Machinist/CNC Machinist** • **Process Improvement Specialist**
Guided Transfer	• **Engineering and Engineering Technology University Transfer Associate of Science**	**Several options including, but not limited to:** • **Bachelor of Science in Civil Engineering** • **Bachelor of Science in Electrical Engineering** • **Bachelor of Science in Mechanical Engineering** • **Bachelor of Science in Industrial Engineering**	• **Engineer**

Selected Occupations, Wages, and Job Growth

The advanced manufacturing careers listed below are projected to have job openings over the next five years in the region. The living wage ($28.66/hour) is from the MIT Living Wage Calculator for one adult and one child in Montgomery County in 2022. Like all industries, many high-wage jobs in advanced manufacturing require a bachelor's degree or beyond. However, there are a few jobs below that don't require a four-year degree and pay over $20/hour. In manufacturing, there are few defined career advancement opportunities, but one such opportunity is moving into a managerial/supervisory role. The last column in the table shows the occupation's risk of being affected by automation, a factor to consider as individuals plan for their careers.

Typical Job	Pays Living Wage ($28.66)	Median Hourly Earnings	Entry Level Wages	Positions (2021)	Average Annual Openings	Expected Growth (2021–2026)	Typical Education Required	Higher-than-Average Risk of Automation
Electronics Engineers	Yes	$53.67	$42.73	1,388	87	-2%	Bachelor's degree	No
Software Developers and Software Quality Assurance Analysts and Testers	Yes	$44.13	$26.68	5,640	482	11%	Bachelor's degree	No
Mechanical Engineers	Yes	$43.37	$34.38	1,213	79	4%	Bachelor's degree	No
dustrial Engineers	Yes	$38.47	$31.96	1,114	85	8%	Bachelor's degree	No
ctrical and Electronics pairers	Yes	$31.38	$28.24	78	7	6%	Postsecondary certificate	No
pervisors/Managers	Yes	$30.77	$24.53	2,052	190	2%	High school diploma or equivalent	No
achinist/CNC Machinist	No	$23.20	$17.88	2,050	206	4%	High school diploma or equivalent	Yes
elders, Cutters, Solderers, d Brazers	No	$20.89	$17.72	663	82	8%	High school diploma or equivalent	Yes
intenance Repair orkers	No	$19.80	$16.09	3,277	320	0%	High school diploma or equivalent	Yes
spector/Quality surance Auditor	No	$18.93	$16.21	1,855	196	-6%	High school diploma or equivalent	Yes

document was developed by JFF, Learn to Earn Dayton, and the Montgomery County ESC. Special thanks to Sinclair Community College, Hobart Institute of Welding nology, and the Dayton Region Manufacturers Association for their feedback and contributions.

Montgomery County Elementary Educator Pathway

Regional pathway models support the alignment of stakeholders including employers, higher education, K-12, and workforce, to ensure pathways prepare young people for careers with family-supporting wages and build a robust pipeline for employers. Pathway models demonstrate a vision from 8th grade to career including high school coursework, college and career preparation activities, potential postsecondary programs, and in-demand jobs in the regional labor market. This is a living document that will need to be updated regularly to reflect current education programs and workforce needs.

Academic Coursework

This general coursework is recommended for all students in the Education pathway.

	Grade 8	Grades 9 and 10	Grade 11	Grade 12
Career Focused Courses		⊕ Foundational Education or CCP Course such as: ECE 1101 - Introductory to Child Development	⊕ ECE 2200 - Families, Communities, & Schools	⊕ EDU 1100 - Introduction to Education
English	Grade 8 English	English II English III	⊕ ENG 1101 - English Composition I	⊕ ENG 1201 - English Composition II
Math	Grade 8 Math/Algebra	Algebra I/Geometry	Algebra II	Trigonometry/Calculus
History	Social Studies	⊕ World History American History HIS 1101* - US History	World History Social Studies Elective**	US Government
Science	Physical Science	Biology	Chemistry	Physics

⊕ College Credit Plus (CCP) courses apply to a broad range of postsecondary programs in education. The credits apply to both high school and postsecondary requirements, saving students time and money.

*Miami University students replace with HIS 1112: Western Civilization **Optional

College and Career Preparation

These additional activities support students in preparing for both college and career. Work-based learning enables students to apply their academic learning in a real-world setting. Advising supports students in making decisions that align best with their strengths and future goals. Competencies describe the skills and knowledge students need for a successful career in education career fields.

	Grade 8	Grades 9 and 10	Grade 11	Grade 12
Work-Based Learning	• Job Shadow • Peer Tutoring	• Job Shadow • Join Educator Rising/Participate in a Grow Your Own Program at your HS • Summer work with childcare, tutoring, student programs, etc.	• Job Shadow • Job Fair • Mock Interview • Participate in Educator Rising/Participate in a Grow Your Own Program at your HS • Summer work with childcare, tutoring, student programs, coaching, etc.	• Job Shadow • Job Fair • Mock Interview • Educator Rising • Participate in a Grow Your Own Program at your HS • Summer work with childcare, tutoring, student programs, coaching etc.
Advising	• YouScience	• Identification of Credential and College Options • Financial Literacy Course • Begin Ohio Means Jobs Readiness Seal • College Application Prep Work	• Financial Literacy Course • Ohio Means Jobs Readiness Seal • Identify content area and grade level of interest for teaching license	• Complete FAFSA • Complete College Application • Complete Ohio Means Jobs Readiness Seal • College and Career Signing Day
Competencies	• Employability Skills • CPR & First Aid Certification	• Written Communication • Verbal Communication • Organization • Responsible Decision Making • Social Awareness • Relationship Skills • Child Development	• Ethics in Education • Technology Competencies	• Individual specialization in grades and subjects of interest

Educational Competencies

Written Communications:
The ability to identify, clearly state, and convey a goal to the reader.

Verbal Communication:
The ability to deliver and understand verbally transmitted information quickly and accurately.

Organization:
The ability to manage many tasks: planning lessons, delivering instruction, scheduling, maintaining records, prioritization, and collaboration.

Social Awareness:
The ability to understand and empathize with the perspectives of others, including those from diverse backgrounds, cultures, and contexts.

Relationship Skills:
The ability to establish and maintain healthy and supportive relationships and to navigate settings with a broad spectrum of individuals and groups.

Responsible Decision Making:
The ability to make caring and constructive choices about personal behavior and social interactions across various situations.

Child Development:
Understand the sequence of physical, intellectual, language, and emotional changes that occur in a child from birth to young adulthood.

Technology Competencies:
The ability to preform and adapt core technology functions necessary for the classroom and functions within an educational setting.

Educational Professional Licensure:
Use understanding of appropriate education requirements, licensure, and certification to obtain appropriate credentials.

Ethics in Education:
Understand the value of educational integrity and the responsibilty inherent in the profession of teaching.

Selected Postsecondary Options

The selected postsecondary credentials in the education pathway are based on transfer agreements at Sinclair Community College. Some education paths have credentials that easily stack or build from the previous credential, while others are not easily stackable. Credentials can help individuals document their progress in defined career pathways and help them measure their move up the career ladder into different or higher paying jobs.

Professional Role	Initial Credential	Stackable Credentials	Typical Occupational Outcome
Educational Aide	Educational Aide Permit	• Associates degree or 48 semester hours at an accredited college or university • ParaPro Exam	Educational Aide with ESEA endorsement
Early Childhood Education	Child Development Associate Credential (CDA), Ohio Administrator Credential (OCCRRA)	• Associates degree, Associate of Arts (AA) or Bachelor of Arts (BA) in Early Childhood Education (Non-Licensure) • Pre-Kindergarten License, Pre-Kindergarten Special Needs, Teaching English to Speakers of Other Languages (TESOL), Adapted Physical Education, Bilingual, Computer/Technology, Computer Science, Drama/Theater	• Pre-kindergarten Teacher • Lead Teacher at Childcare Center or Early Learning Center • Childcare Center Administrator
Elementary Teacher	Teaching License	• Bachelors Degree, Early Childhood Generalist License, • Primary (PK-5) License, Teaching English to Speakers of Other Languages (TESOL), Gifted Intervention Specialist, Drama/Theater, Computer Science, Computer/Technology, Bilingual, Adapted Physical Education	Elementary Teacher
Middle Childhood Education	Teaching License	• Bachelors Degree • Middle Childhood License, Middle Childhood Generalist Endorsements (LA, Math, Science, Social Studies) , Teaching English to Speakers of Other Languages (TESOL), Gifted Intervention Specialist, Drama/Theater, Computer Science, Computer/Technology, Bilingual, Adapted Physical Education	Grades 4-9 Teacher
Adolecent Young Adult Education (AYA)	Teaching License	• Bachelors Degree • Adolescent Young Adult (AYA) License, AYA Subject Endorsements, Teaching English to Speakers of Other Languages (TESOL), Gifted Intervention Specialist, Drama/Theater, Computer Science, Computer/Technology, Career Based Intervention, Bilingual, Adapted Physical Education	Grades 7-12 Teacher
Educational Leadership	Two years of successful teaching experience under a standard teaching license, Master's Degree, Approved Preparation Program, or Alternative pathway	• Principal License • Administrative Specialist License • Superintendent License	• Assistant Principal • Principal • Dean of Students • Superintendent • Instructional Coordinator

Additional information about supplemental licensures can be found at the Ohio Department of Edcuation website:
https://education.ohio.gov/Topics/Teaching/Licensure/Supplemental-License/Supplemental-Teaching-License-for-Endorsement-Area

Selected Occupations, Wages, and Job Growth

The education careers listed below are projected to grow in the region. The living wage ($32.08 per hour) is from the MIT Living Wage Calculator for one adult and one child in Montgomery County in 2022. Those pursuing a career in public sector education may choose to explore the additional career benefits unique to the field such as retirement, healthcare, and leave. Note that some jobs in the table do not pay a living wage; however, degree and credential pathways exist in all professions and the following information documents the earning potential for different roles within education.

Occupation	Job Summary	Entry-Level Education	2021 Median Pay	Median Hourly Earnings	Pays Living Wage ($32.08)	Expected Growth 2020-2030
Teacher Assistants	Teacher assistants work with a licensed teacher to give students additional attention and instruction.	Some college, no degree	$24,360	$16	No	9%
Preschool Teachers	Preschool teachers educate and care for children younger than age 5 who have not yet entered kindergarten.	Associate's degree	$30,210	$20	No	18%
Elementary School Teachers	Kindergarten and elementary school teachers instruct young students in basic subjects in order to prepare them for future schooling.	Bachelor's degree	$61,350	$41	Yes	7%
Middle School Teachers	Middle school teachers educate students typically in sixth through eighth grades.	Bachelor's degree	$61,320	$41	Yes	7%
High School Teachers	High school teachers teach academic lessons and various skills that students will need to attend college and to enter the job market.	Bachelor's degree	$61,280	$41	Yes	8%
Career & Technical Education Teachers	Career and technical education teachers instruct students in various technical and vocational subjects, such as auto repair, healthcare, and culinary arts.	Bachelor's degree	$61,160	$41	Yes	5%
Special Education Teachers	Special education teachers work with students who have a wide range of learning, mental, emotional, and physical disabilities.	Bachelor's degree	$61,820	$42	Yes	8%
Elementary, Middle, & High School Principals	Elementary, middle, and high school principals oversee all school operations, including daily school activities.	Master's degree	$98,490	$56	Yes	8%
Instructional Coordinators	Instructional coordinators oversee school curricula and teaching standards. They develop instructional material, implement it, and assess its effectiveness.	Master's degree	$63,740	$43	Yes	10%
Librarians & Library Media Specialists	Librarians and library media specialists help people find information and conduct research for personal and professional use.	Master's degree	$61,190	$41	Yes	9%
School & Career Counselors and Advisors	School counselors help students develop academic and social skills. Career counselors and advisors help people choose a path to employment.	Master's degree	$60,510	$41	Yes	11%

Source: Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Career and Technical Education Teachers, at https://www.bls.gov/ooh/education-training-and-library/career-and-technical-education-teachers.htm (visited August 18, 2022).
*living wage calculation based on one adult and one child in Montgomery county in August of 2022 from the MIT Living Wage Calculator (https://livingwage.mit.edu/counties/39113)

Montgomery County Business Advisory Council Participants

Thank you to the members of the Business Advisory Council. The group includes representatives from 23+ school districts, 7 in-demand industries, higher education, local government, military, local economic development organizations and other community partners.

To join the Council or to learn more about how your school or business can participate, contact Bryan Stewart, Workforce Director at Bryan.Stewart@MCESC.org.

- Associated Builders and Contractors, Ohio Valley
- Better Business Bureau
- Brookville Local Schools
- CareSource
- Carlisle Local Schools
- Centerville City Schools
- Construction Builders Association
- CRG, Inc.
- Dayton Area Chamber of Commerce
- Dayton Area Logistics Association
- Dayton Business Committee
- Dayton Children's Hospital
- Dayton Development Coalition
- Dayton Metro Library
- Dayton Region Manufacturers Association
- Dayton Public Schools
- Expedient Technology Solutions
- Franklin City Schools
- GE Aviation
- Greater Dayton Area Hospital Association
- Hobart Institution of Welding Technology
- Huber Heights City Schools
- Jefferson Township Local Schools
- Junior Achievement of OKI Partners
- Kettering City Schools
- Kettering Health Network
- Kings Local Schools
- Learn to Earn Dayton
- Lebanon City Schools
- Little Miami Local School District
- Mad River Local Schools
- Mercy Health
- Miamisburg City Schools
- Miami Valley Apprenticeship Coordinators Group
- Miami Valley Career Technology Center
- Miami Valley HR Association
- Montgomery County
- Montgomery County Educational Service Center
- New Lebanon Local Schools
- Northmont City Schools
- Northridge Local Schools
- NuVasive
- Oakwood City Schools
- Ohio Regular Army and Army Reserve
- PSA Airlines
- Shook Construction
- Sinclair College
- Southwestern Ohio Council for Higher Education
- Springboro Community City School District
- Technology First
- The Entrepreneurs' Center
- Trotwood-Madison City Schools
- Valley View Local Schools
- Vandalia-Butler City Schools
- Warren County Career Center
- Warren County Educational Service Center
- Wayne Local Schools
- West Carrollton City Schools
- Wright-Patterson Air Force Base

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