

**BOARD OF HIGHER EDUCATION
REQUEST FOR BOARD ACTION**

NO.: BHE 27-13

DATE: September 29, 2026

**APPROVAL OF LETTER OF INTENT OF MOUNT WACHUSETT COMMUNITY COLLEGE TO
AWARD THE ASSOCIATE OF SCIENCE IN HYBRID/ELECTRIC VEHICLES FOR FAST TRACK
REVIEW**

MOVED: The Board of Higher Education (BHE) has evaluated the Letter of Intent of **Mount Wachusett Community College** to award the **Associate of Science in Hybrid/Electric Vehicles** and has determined that the proposal aligns with BHE criteria. Accordingly, the BHE authorizes the Commissioner to review the program and to make a final determination on degree granting authority pursuant to the Fast-Track review protocol.

VOTED: Motion adopted by the BHE on 9/29/2026.

Authority: Massachusetts General Laws Chapter 15A, Section 9(b); AAC 18-40

Contact: Richard Riccardi, Sc.D., Deputy Commissioner for Academic Affairs and Student Success

**BOARD OF HIGHER EDUCATION
Mount Wachusett Community College
Letter of Intent
Associate of Science in Hybrid/Electric Vehicles**

DEGREE TITLE ABSTRACT ON INTENT AND MISSION OF PROGRAM

Mount Wachusett Community College is committed to preparing students for a range of professional opportunities in the rapidly evolving Electric Vehicle (EV) industry. Expanding on its current Certificate Degree in Hybrid/Electric Vehicles, Mount Wachusett proposes an Associate of Science in Hybrid/Electric Vehicles degree designed to meet the growing demand for skilled technicians in North Central Massachusetts. Students will gain extensive hands-on experience in scanning, diagnosing, servicing, and repairing both hybrid and battery-powered vehicles. The proposed degree program also emphasizes mastery of key theoretical concepts such as battery safety and construction, thermal systems, regenerative braking, and electric drive units. Through this comprehensive training, Mount Wachusett enhances students' job readiness and supports regional workforce needs in the automotive sector.

The proposed Associate of Science in Hybrid/Electric Vehicles was approved by Mount Wachusett's Board of Trustees on March 2, 2026. The LOI was circulated on May 18, 2026. No comments were received.

A. ALIGNMENT WITH MASSACHUSETTS GOALS FOR HIGHER EDUCATION

Address Gaps in Opportunity and Achievement in Alignment with Campus-Wide Goals

In collaboration with campus and community stakeholders including employers, the Automotive Department utilized the Advisory Board, labor market, and workforce data to respond to the need for a more skilled workforce. The Advisory Board sought input to develop the proposed curriculum, knowledge, skills and abilities (KSAs); and efforts to seek and leverage resources and funding for the proposed degree program.

The Automotive Department is the cornerstone of Mount Wachusett's vocational training efforts. The institution has prioritized growing student interest in this field, including recruiting diverse students. While female students outpace male students in college enrollment, the inverse is true for enrollment in the Automotive academic programs. The Automotive Technology program grew rapidly over the last five years, with 47% more students from Spring 2025 to Spring 2026. Through intentional recruitment and outreach with marketing and admissions, Mount Wachusett has seen small but steady increases in students who identify as female enrolling in the program. Other demographics will be collected to establish baseline data and target growth projections. These efforts will be replicated for the proposed degree program.

Program or Department Supports to Ensure Student Retention and Completion

Mount Wachusett's Spring 2026 enrollment is 4,550 students. The Automotive program headcount (Certificate and Associate) is 101 returning students and 24 new students totaling 125 students. There has been a steady growth trajectory post-COVID. The Automotive Department is located on a satellite campus. To improve access and success for Automotive students, efforts have been made to connect campus resources to streamline students' access to resources including advising, career services, financial aid, food pantry, and childcare resources.

According to Mount Wachusett's Institutional Research data, the Fall 2024 to Fall 2025 retention rate for the Associate Degree in Automotive Technology was 72.7 %. With Mount Wachusett's exemplary faculty, hands-on curriculum, and robust student services, Mount Wachusett projects the proposed degree

program's retention rates to be on par with this comparator. According to the institutional profile, Mount Wachusett's six year-graduation rate for Academic Year 2023-2024 was 62%. Once more, Mount Wachusett anticipates that the proposed degree program's graduation rates will align with this comparator.

Alliances and Partnerships with PK-12, Other IHE's, Community Employers

The Automotive Department is supported by the college as well as the Mount Wachusett Community College Foundation. The department has a strong and active Advisory Board which consists of automotive dealers throughout the state. The Advisory Board provided guidance to develop an EV technology proposal for the 2023 National Science Foundation Advanced Technological Education Grant (NSF/ATE) competition. Working with the Advisory Board, the proposal was developed outlining the curricular work, the infusion of EV technology in existing classes, and the expansion of new courses to be developed to create the proposed degree program. A 2023 Mass Skills Capital grant was sought to support the expansion of the service area to include services bays, equipment, and supplies for the proposed degree program.

The Advisory Board continues to meet, providing valuable input on the program goals, knowledge skills and abilities (KSAs), and curriculum. They work with the department chair to identify sites for student internship placements. They contribute to efforts to leverage new resources, including grants to ensure the department has access to state-of-the-art technology and infrastructure.

Relationship to MassHire Regional Blueprints

The U.S. Department of Labor cites a strong demand for qualified automotive technicians and master technicians as there are more automotive jobs available than there are qualified graduates to fill them. Transportation, logistics, and warehousing are one of the top three regional workforce priority industries identified by the Central MA Regional Workforce Blueprint 2023-2027. The proposed degree program has a clear economic development benefit for North Central Massachusetts and has strong community support from automotive employers and the regional community. Through the proposed degree program, Mount Wachusett will be able to expand its academic program offerings to prepare the next generation of automotive technicians, a critical need as the skilled labor force enters retirement age. With newer automobiles having more computerized components, technicians are in need of proper training to service these vehicles. According to the Lightcast Job Posting Analytics report, between March 2024 and

March 2025, there were over 709 unique job postings in the region, with nearly two positions currently open for every qualified candidate. The proposed degree program will increase the number of trained and qualified automotive technicians in the region who are meeting the needs of regional employers. With an average median advertised salary of \$54,980, the automotive technicians trained will support the economic growth and workforce development of the region.

Through intentional recruitment and outreach with Marketing, Admissions, Dual Enrollment, and Advisory Board members, the proposed degree program will be promoted to students and employees seeking to further develop their skills.

References:

Commonwealth of Massachusetts (2023). Central Region Workforce Blueprint 2023-2027.

<https://www.mass.gov/lists/regional-workforce-blueprints>

Lightcast. (2025). Automotive Service Technicians and Mechanics in 3 Counties. <https://lightcast.io/>

United State Department of Labor. (2025). Automotive Service Technicians and Mechanics, Occupational Outlook Handbook. <https://www.bls.gov/ooh/installation-maintenance-and-repair/automotive-service-technicians-and-mechanics.htm#:~:text=in%20May%202024,-,Job%20Outlook,on%20average%2C%20over%20the%20decade.>

Duplication

As the table below indicates, while there are associates and certificate degree programs in the region, few have infused EV/hybrid technology into their courses, and even fewer have specific EV/Hybrid Associates and Certificate Degree programs:

Institution Name	Automotive Tech Assoc.	Automotive Tech Cert.	Hybrid/EV Assoc.	Hybrid/EV Cert.	EV infused curriculum
Benjamin Franklin Inst. of Technology, MA	X	X	X		X
Mass Bay Community College, MA	X	X			X

Quinsigamond Community College, MA	X	X			
Manchester Community College, NH	X	X			
Nashua Community College, NH	X	X			
Gateway Community College, CT	X	X		X	
New England Institute of Technology, RI	X				
Vermont Technical College, VT	X				
Northern Maine Community College, ME	X	X			X
SUNY Canton, NY	X				
Monroe Community College, NY	X	X			
Hudson Valley Community College, NY	X				
Suffolk County Community College, NY	X	X			X
Alfred State College, NY	X				X
Lincoln Tech, NY	X	X			X
Pennsylvania College of Technology, PA	X				X
Universal Technical Institute, PA	X	X	X	X	X
Northampton Community College, PA	X	X			
Institution Name	Link				
Benjamin Franklin Inst. of Technology, MA	https://franklincummings.edu/academics/academic-programs/automotive-technology/				
Mass Bay Community College, MA	https://www.massbay.edu/academics/automotive				

Quinsigamond Community College, MA	https://www.qcc.edu/installation-maintenance-and-repair-technologies/automotive-technology
Manchester Community College, NH	https://mccnh.edu/program/automotive-technology/
Nashua Community College, NH	https://nashuacc.edu/program/automotive-technology/
Gateway Community College, CT	https://catalog.ctstate.edu/preview_program.php?catoid=19&poid=7417
New England Institute of Technology, RI	https://www.neit.edu/academics/Degree-degrees/automotive-technology-as
Vermont Technical College, VT	https://vermontstate.edu/academic-programs/automotive-technology-aas/
Northern Maine Community College, ME	https://www.nmcc.edu/academics/programs/academic-programs/automotive-technology/
SUNY Canton, NY	https://www.canton.edu/csoet/auto/
Monroe Community College, NY	https://www.monroecc.edu/academics/majors-programs/stem/automotive---multi-manufacturer-automotive-aas/
Hudson Valley Community College, NY	https://www.hvcc.edu/programs/all/stem/automotive-management-aas.html
Suffolk County Community College, NY	https://www.sunysuffolk.edu/explore-academics/majors-and-programs/automotive-technology/#AUTB-AAS
Alfred State College, NY	https://www.suny.edu/attend/find-a-suny-program/undergraduate/?CampusID=30
Lincoln Tech, NY	https://info.lincolntech-usa.com/programs/automotive/automotive-technology/
Pennsylvania College of Technology, PA	https://www.pct.edu/academics/et/automotive/automotive-technology
Universal Technical Institute, PA	https://www.uti.edu/programs/automotive
Northampton Community College, PA	https://www.northampton.edu/education-and-training/programs/automotive-technology.html

Innovative Approaches to Teaching and Learning

The proposed degree program has been strategically designed to incorporate significant innovative and experiential learning approaches. The course structure integrates lectures with corresponding lab sessions, ensuring that theoretical concepts are immediately reinforced through hands-on practice.

A key component of the proposed degree program is the emphasis on live work, where students engage in real-world scenarios involving the scanning, diagnosing, servicing, and repairing of hybrid and battery electric vehicles. This experiential learning model not only enhances student engagement but also develops practical, job-ready skills aligned with current industry needs.

The proposed degree program also incorporates a stackable credential framework, allowing students to earn Associate and Certificate degrees in Automotive and Hybrid/EV systems. This approach supports flexible learning pathways, enabling students to build competencies progressively and align their education with evolving career goals and industry demand.

These elements collectively reflect a forward-thinking, competency-based educational model that blends digital, hands-on, and career-aligned innovation.

B. ALIGNMENT WITH CAMPUS STRATEGIC PLAN AND MISSION

Strategic Plan and Mission

Mount Wachusett's vocational training efforts are centered on the Automotive Technology Programs and will expand via the proposed degree program. The proposed degree program addresses a growing industry demand for automotive repair and maintenance technicians trained in hybrid and electric vehicle technology in the North Central Massachusetts region.

The proposed degree program is aligned with several pillars of their Operational Plan outlined below:

Goal 1: Equity and Inclusion in Opportunity, Access, and Affordability

The Automotive department will partner with admissions, marketing, Dual Enrollment, and the Advisory Board to promote the proposed degree program to historically and currently underrepresented students.

Goal 2: Equitable and Inclusive Student Success and Achievement

Efforts will continue to streamline Automotive students' access to campus resources including advising, career services, financial aid, food pantry, and childcare resources.

Goal 3: Equitable and Inclusive Pedagogy, Facilitation, and Academic Programming

Department faculty have had access to professional development and industry experts to ensure

innovative and experiential learning approaches are utilized in the proposed curriculum.

Goal 4: Regional and Economic Development Leader

The proposed degree program will position Mount Wachusett as a regional leader in automotive education, equipping students for in-demand careers while strengthening employer partnerships and addressing local labor market needs.

Goal 5: Institutional Capacity Building for Equitable Decision Making and Inclusive Engagement

The Automotive Technology department will use labor market and workforce data, in collaboration with campus and community partners, to expand academic programs that meet regional employment needs. Efforts will focus on leveraging resources to grow the Automotive satellite campus offerings, enhance associate degree and certificate programs including Hybrid and EV and invest in advanced technologies.

Goals and Objectives (Form B)

Student Learning Outcomes: Upon successful completion of the proposed degree program, students will be able to:

1. Apply safety protocols by identifying high-voltage (HV) hazards and selecting appropriate tools and procedures, demonstrating critical reasoning in risk assessment and mitigation.
2. Interpret the construction, chemistry, and function of HV and 12V battery systems using precise technical vocabulary and schematics to support accurate diagnostics and servicing.
3. Analyze the operation of electric drive units in various drivetrain configurations, predicting system behavior based on principles of electrical and mechanical energy transfer.
4. Evaluate the roles and interactions of inverters, IGBT modules, capacitors, and regenerative braking systems within EV architectures, demonstrating system-level thinking.
5. Demonstrate proficiency in HV battery management procedures, including startup and shutdown sequences, with emphasis on logical sequencing and technical accuracy.
6. Compare and contrast EV battery charging technologies, explaining how charger types and levels impact efficiency, safety, and performance using quantitative and conceptual

reasoning.

7. Utilize diagnostic and scan tools to collect, interpret, and synthesize data from EV/HEV systems, formulating evidence-based troubleshooting strategies.
8. Perform routine service and component replacement tasks in accordance with manufacturer specifications, justifying steps based on diagnostic outcomes and repair standards.
9. Navigate service manuals and interpret complex wiring diagrams for PHEV, FHEV, and BEV platforms, translating symbolic information into actionable procedures.
10. Explain the function and integration of major EV subsystems, including regenerative braking, HVAC, and battery thermal management, illustrating how they impact overall system performance.

C. ALIGNMENT WITH OPERATIONAL AND FINANCIAL OBJECTIVES OF INSTITUTION

Enrollment Projections (Form C)

Mount Wachusett has experienced steady enrollment growth in its Automotive Technology Certificate and Associate Degree programs. The Hybrid/EV Certificate became available this summer, and this stackable credential is already resonating with current students. The program enrollment projections on Form C consider industry opportunities for current employees to gain in-demand skills in Hybrid/EV technologies as well as new Automotive Technology students who will benefit from the flexibility of the horizontal stacking of the various automotive technology credentials, especially the proposed degree program. There will be no major impact on other academic programs outside of Automotive Technology.

Resources and Financial Statement of Estimated Net Impact on Institution (Form D, Appendices)

Expansion of the Automotive Technology campus was included in the institution's strategic plan set to end on June 30, 2027. As such, regular planning and assessment occurred. This resulted in timely investments in the Automotive Technology program and campus, including significant resources, space, personnel, and equipment. This has laid a strong foundation for the planned expansion into hybrid/EV technologies. Form D outlines five years of revenue and expenses reflecting MWCC's careful preparation for the proposed degree program.

STAFF REVIEW AND VALIDATION

Staff thoroughly reviewed the **LOI** proposing full degree granting authority for the **Associate of Science in Hybrid/Electric Vehicles** program submitted by **Mount Wachusett Community College**. Staff validate that the **LOI** includes all data required by the Massachusetts Board of Higher Education. Staff recommendation is for BHE authorization for the Commissioner to review the program pursuant to the Fast-Track review protocol.

Form A: Curriculum Outline

Required (Core) Courses in the Major (Total # courses required = 10)		
<i>Course Number</i>	<i>Course Title</i>	<i>Credit Hours</i>
AUT 125	Engine Repair	6
AUT 123	Electical 1	4.5
AUT 124	Electrical 2	4.5
AUT 127	Steering & Suspension	5
AUT 122	Brakes	5
AUT 204	Heating and Air Conditioning	3
AUT 205	Automotive/EV Cooperative	3
AUT 161	Introduction to EV Technology	3
AUT 271	EV Battery Frameworks	4
AUT 281	EV Components & Electric Drive Motors	4
	Sub Total Required Credits	42
Elective Courses (Total # courses required =0) (attach list of choices if needed)		
	Sub Total Elective Credits	0
Distribution of General Education Requirements		# of Gen Ed
Attach List of General Education Offerings (Course Numbers, Titles, and Credits) (Total # courses required =7)		Credits
Arts and Humanities, including Literature and Foreign Languages		9
Mathematics and the Natural and Physical Sciences		7
Social Sciences		6
Sub Total General Education Credits		22
Curriculum Summary		
Total number of courses required for the degree		17
Total credit hours required for degree		64
Prerequisite, Concentration or Other Requirements: ENG 098, FYE 101, MAT 092 or MAT 096 (or corequisite), RDG 098, or placement		

Form A1: Supplemental*Distribution of General Education Requirements*

Attach List of General Education Offerings (Course Numbers, Titles, and Credits)

Arts and Humanities, including Literature and Foreign Languages:

ENG 101. College Writing I. 3 Credits.

ENG 102. College Writing II. 3 Credits.

ENG 202. American Immigrant Literature. 3 Credits.

ENG 224. Mystery Fiction. 3 Credits.

FRE 107. French I. 3 Credits.

SPA 109. Beginning Spanish I. 3 Credits

ART 101. Introduction To Painting. 3 Credits.

ART 103. Introduction to Sculpture. 3 Credits.

ART 105. Introduction To Drawing. 3 Credits.

HUM 240. Comparative Religion. 3 Credits.

HUM 260. The Art Of Being Human. 3 Credits.

MUS 103. Music Skills And Theory I. 3 Credits.

MUS 106. History Of Jazz. 3 Credits.

PHL 110. Logic. 3 Credits.

PHL 135. Applied Ethics. 3 Credits.

PHL 180. World Philosophy. 3 Credits.

SPC 113. Speech. 3 Credits.

MGT 110. Introduction to Business. 3 Credits.

Mathematics and the Natural and Physical Sciences

MAT 126. Topics In Mathematics. 3 Credits.

MAT 143. Statistics. 3 Credits.

PHY 101. Introduction To Physical Science. 4 Credits.

Social Sciences

PSY 105. Introduction To Psychology. 3 Credits.

SOC 103. Introduction To Sociology. 3 Credits.

SOC 125. Gender Development and Cultural Changes. 3 Credits.

ECO 101. Macroeconomics. 3 Credits.

ECO 102. Microeconomics. 3 Credits.

GEO 129. World And Cultural Geography. 3 Credits.

HIS 105. History Of World Civilization I. 3 Credits.

HIS 106. History Of World Civilization II. 3 Credits.

HIS 113. History Of Contemporary Issues. 3 Credits.

HIS 121. History Of The Constitution. 3 Credits.

POL 210. American International Relations. 3 Credits.

POL 211. Introduction to American Government and Politics. 3 Credits.

Form B: LOI Goals and Objectives

Goal	Measurable Objective	Strategy for Achievement	Timetable
Develop recruitment procedures & meet enrollment targets	Meet enrollment targets. Use timelines & benchmarks in coordination with Admissions & Marketing	Assigned to Dean, Admissions, & Marketing.	On-going with regular review
Maintain high quality faculty teaching	Review of syllabi & course materials. Regular communication with faculty.	Assigned to Department Chair. Use NSF & Advisory Board resources for professional development.	On-going, with continuous review
Develop, offer, & assess effectiveness of all courses and programs.	All courses in program offered. Student success rate at or above institutional average. Collect artifacts to evaluate program learning outcomes	Assigned to Department Chair. Assess through program review process, student & partner feedback.	On-going through program review cycle.
Successful outcomes for graduates	Graduates transfer or obtain relevant employment within one year of graduation.	Assigned to Department Chair & Career Services.	Annual

Form C: LOI Program Enrollment

	Year 1	Year 2	Year 3	Year 4	Year 5
New Full-Time	6	10	14	23	31
Continuing Full-Time	7	9	12	16	22
New Part-Time	6	10	14	23	31
Continuing Part-Time	7	9	12	16	22
Enrollment Totals	26	38	52	78	106

Form D: LOI Program Budget

One Time/ Start Up Costs						
		Annual Expenses				
	Cost Categories	Year 1	Year 2	Year 3	Year 4	Year 5
	Full Time Faculty (Salary & Fringe)	\$103,600	\$0	\$0	\$0	\$103,600
	Part Time/Adjunct Faculty (Salary & Fringe)	\$63,000	63,000	\$63,000	\$63,000	\$63,000
	Staff (lab tech/program aid)	\$14,040	\$14,404	\$28,080	\$55,000	\$55,000
	General Administrative Costs	\$1,200	\$1,200	1,200	1,200	1,200
	Instructional Materials, Library Acquisitions	\$6,000	\$6,000	\$6,000	\$6,000	\$6,000
	Facilities/Space/Equipment	\$12,000	\$14,000	\$16,000	\$18,000	\$20,000
	Field & Clinical Resources	\$0	\$0	\$0	\$0	\$0
	Marketing	\$0	\$0	\$0	\$0	\$0
	Other (Specify)	\$0	\$0	\$0	\$0	\$0
Total Annual Expenses		\$199,840	\$98,604	\$114,280	\$143,200	\$248,800
	Revenue Categories					
	Grants	\$400,000	\$350,000	\$350,000	\$350,000	\$150,000
	Tuition (\$215 minimum Automotive Technology courses only)	\$30,749	\$44,935	\$61,490	\$92,235	\$125,345
	Fees (\$51)	\$7,293	\$10,659	\$14,586	\$21,879	\$29,733
	Departmental	\$0	\$0	\$0	\$0	\$0
	Reallocated Funds	\$0	\$0	\$0	\$0	\$0
	Other (specify)	\$0	\$0	\$0	\$0	\$0
Total Annual Revenues		\$438,042	\$405,594	\$426,076	\$464,114	\$305,078