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### BATEC: Broadening Advanced Technological Education Connections

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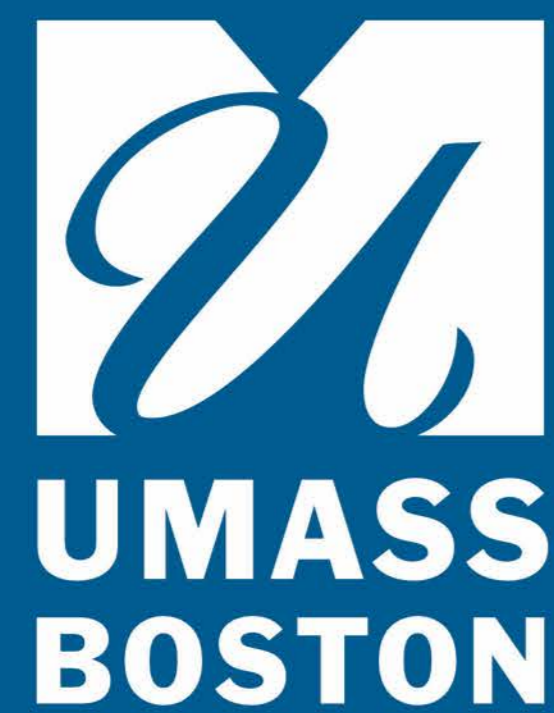
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# BATEC

## Broadening Advanced Technological Education Connections

BATEC brings together cross-sector stakeholders from education, industry, and the community to collectively build a seamless and robust education-to-workforce pathway among students underrepresented in IT fields, including women, those from ethnically and culturally diverse backgrounds, and students with disabilities.

Bunker Hill, Roxbury, and Middlesex Community Colleges and 7 metro Boston school districts were among the founding partners.

Today the resulting regional collaborative includes seven community colleges and their 30 feeder public school districts, more than 75 industry, governmental, and community partners, and serves as a test bed for the national arena.

Together, the collaborative is transforming IT education through innovative curriculum aligned across educational levels, experiential learning opportunities, and professional development that engages students, educators, and industry and community professionals.

**BATEC is transforming education to develop a diverse population of IT professionals for the 21st century workplace by:**

Defining, extending and strengthening computing pathways and career opportunities in the disciplines of Computer Science and Information Technology

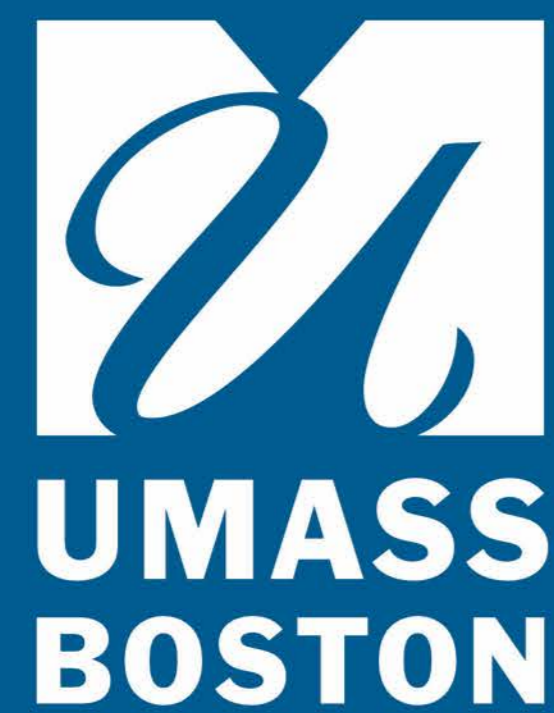
Facilitating and leveraging strategic partnerships with education, business, government and community to build awareness, generate interest, and support learning opportunities

Participating in and leading the national discussion on the subject of integrated curriculum and applied IT education.

Conducting actionable research to inform policy makers, IT educators, and workforce development agencies



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# BATEC

## Broadening Advanced Technological Education Connections

### Defining, extending, and strengthening computing pathways and career opportunities in the disciplines of Computer Science and Information Technology.

Increased the student participation from underrepresented backgrounds in IT-related curriculum and career pathways by engaging **8,146 Massachusetts students (20,032 students nationally)** from secondary, associate, and baccalaureate schools in at least one **BATEC supported course within all programming.**

- The **20,032** students engaged in AY 2013-14 represents an increase of **239%** since 2007.
- Over **130** Boston Public Schools students participate in the Tech Apprentice program annually; **93%** of Tech Apprentice participants attend college (compared to 69% of BPS graduates)
- In 2013 the Tech Apprentice model was adapted and scaled to three participating community colleges in Massachusetts, which has resulted in an additional **65** student internships in a year.
- BATEC assisted Chicago Public Schools (CPS) to incorporate an IT Problem-Solving course that was developed by Bunker Hill Community College into the Early College high school curriculum. This course has also been implemented at City Colleges of Chicago allowing for dual enrollment opportunities. **1,500** students have completed this course.
- BATEC is supporting CPS in its rollout of the “computer science for all” initiative with Code.org, which is expected to impact over **15,000** students within the first year and over 330,000 annually upon the completion of the three-year rollout.

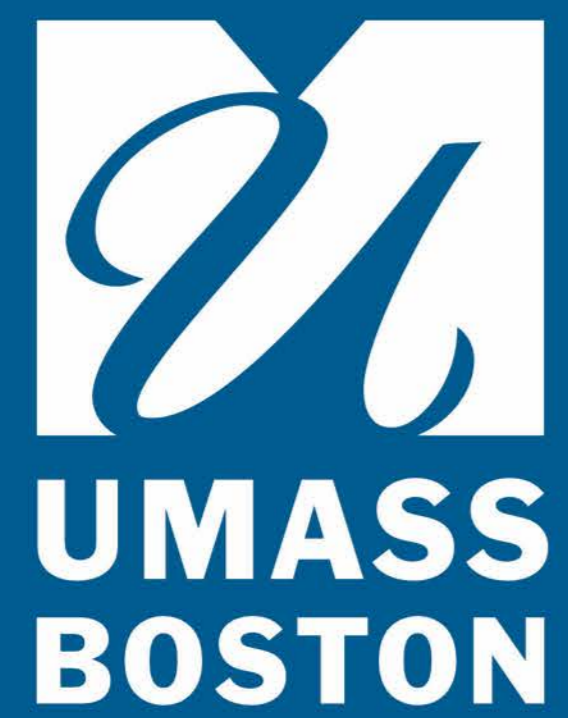
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# BATEC

## Broadening Advanced Technological Education Connections

**Facilitating and leveraging strategic partnerships with education, business, government, and community to build awareness, generate interest, and support learning opportunities.**

**Utilized professional development to build capacity of more than 207 educators across academic levels in order to develop and implement industry-informed curriculum and programming.**

- Participants of the Content in Context workshops collectively reported that their experience would cause them to modify the content of **125 courses**, and that enrollment in these modified courses is estimated to be **7,500 students** on an annual basis.
- The BATEC Summer Institute had an enrollment of **122 faculty** members who attended one-week workshops in emerging fields of technology. The content and pedagogy is reported by the participating faculty to be impacting **17,000 students annually.**
- **4** IT Summits with industry professionals and transfer institutions were held over the past year to garner significant input on curriculum, semester maps, and job expectations, setting the stage for ongoing curricular sharing with regional four-year colleges.
- **17** faculty from the City Colleges of Chicago received IT Problem Solving training from Bunker Hill faculty on methods used in the introductory course CIS 118: Information Technology Problem Solving. This is benefitting over **3,000 students annually.**



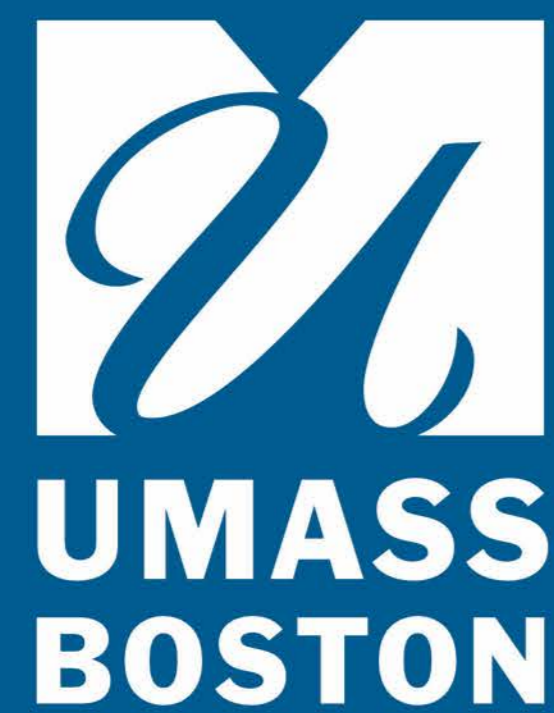
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# BATEC

## Broadening Advanced Technological Education Connections

Participating in and leading the national discussion on the subject of integrated curriculum and applied IT education.

Supported **12** projects that created and aligned new curriculum across academic institutions at the high school and postsecondary levels.

- **9 of the 12** projects impacted curriculum at 6 institutions within **Massachusetts**, 3 projects worked with partners outside of New England.
- **56** participating institutions offered BATEC-influenced courses.
- BATEC's partner institutions participated in **49 articulation agreements** between high schools, community colleges, and universities over the past year.
- Middlesex Community College created two new degrees: **Secure Programming and Secure System Administration**, which were developed to address local workforce needs.
- Bunker Hill Community College (BHCC) has developed and implemented a flexible, replicable curriculum model that integrates employability skills across **“stackable credentials”** with multiple entry points and “fast-tracking” time to completion and workforce entry.



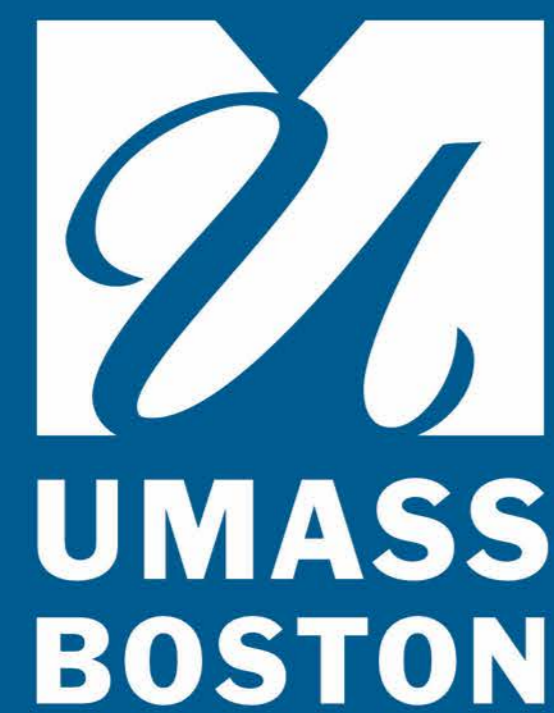
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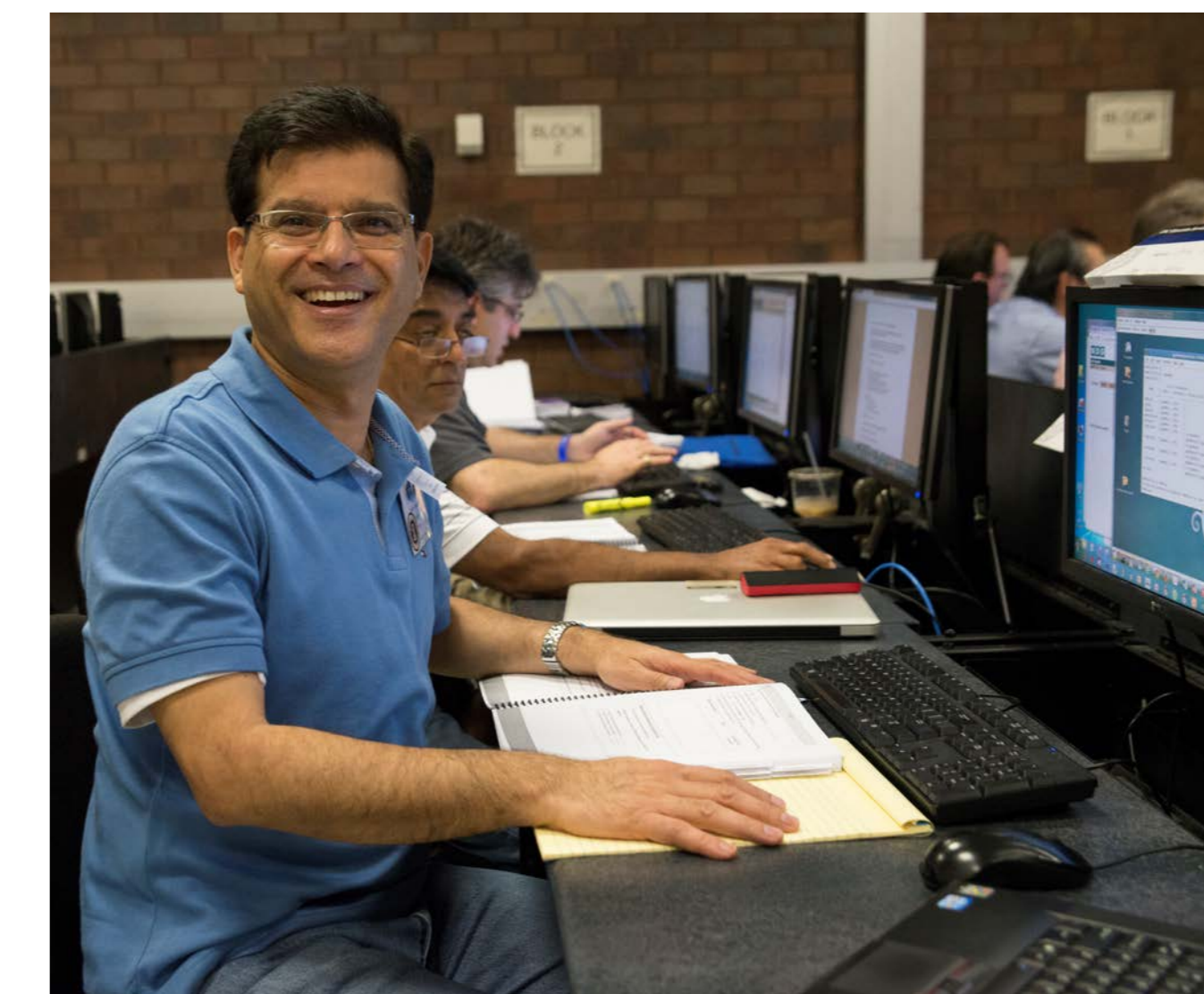
# BATEC

## Broadening Advanced Technological Education Connections

**Conducting actionable research to inform policy makers, IT educators, and workforce development agencies**

**Produced and disseminated 23 publications including industry reports, program manuals, and policy impacts (since BATEC's 2003 founding).**

- **4** program manuals and toolkits designed to assist replicating and managing programming.
- **9** studies on industry and workforce needs.
- **10** documents on best practices to increase educational access and success by historically underserved populations.
- The director of BATEC has been named to the Statewide STEM Advisory Council and the Department of Elementary and Secondary Education's Massachusetts Digital Literacy and Computer Science Standards Panel.



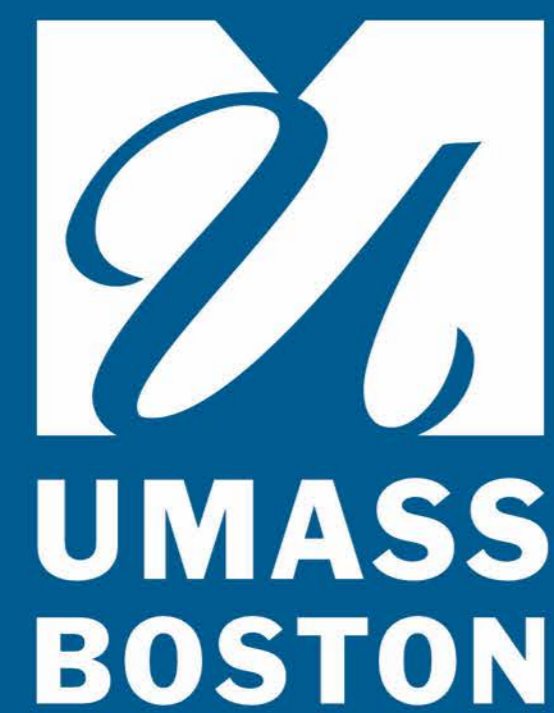
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## Broadening Advanced Technological Education Connections

### Partners and Contacts

BATEC's Massachusetts Partners - In addition to BATEC's extensive list of public school, community college, and university partners, the center also collaborates with a diverse set of IT industry, professional, community, and government partners. The list below provides a representative sample of those partner organizations and agencies.

#### Industry

- AccuRounds
- Akamai
- Aldebaran Robotics
- AT&T
- AutoDesk
- Bank of America
- Blue Cross Blue Shield
- Boston Properties
- Boston Scientific
- Burning Glass
- Certiport
- Cisco Systems
- CloudHealth
- Comcast
- Constant Contact
- dSide Technologies
- EMC
- Epsilon
- Fidelity
- Google

#### Industry Cont.

- Greater Media Boston
- HP Vertica
- IBM
- iRobot
- Juniper Networks
- MathWorks
- Microsoft
- Molecular
- Monster
- NECN
- NetApp
- Ntirety Technologies
- Oracle
- Partners HealthCare
- PTC
- Raytheon
- Recombinant Data
- Reliable IT
- Staples, Inc.
- Starter League

#### Industry Cont.

- State Street Bank
  - TalentRetriever
  - Verizon
  - xVoucher
- #### Professional and Community
- Boston Foundation
  - Boston Private Industry Council
  - Boston Workforce Development Coalition
  - Commonwealth Corporation
  - Dorchester Bay Economic Development Center
  - DotWell
  - Mass High Tech Council

#### Professional and Community Cont.

- Massachusetts Technology Development Corporation
- Massachusetts Technology Leadership Council
- Society for Information Management (SIM)
- New England Center for Homeless Veterans
- St. Mary's Center for Women and Children
- STRIVE
- Timothy Smith Network
- Urban League of Eastern Massachusetts
- Villa Victoria Center for the Arts
- YearUP

#### Government

- City of Boston
- Massachusetts Department of Education
- Massachusetts Department of Higher Education
- Massachusetts Executive Office of Community Colleges
- Massachusetts Executive Office of Labor and Workforce Development
- Massachusetts Governor's STEM Advisory Council
- University of Massachusetts
- President's Office - Donahue Institute



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