

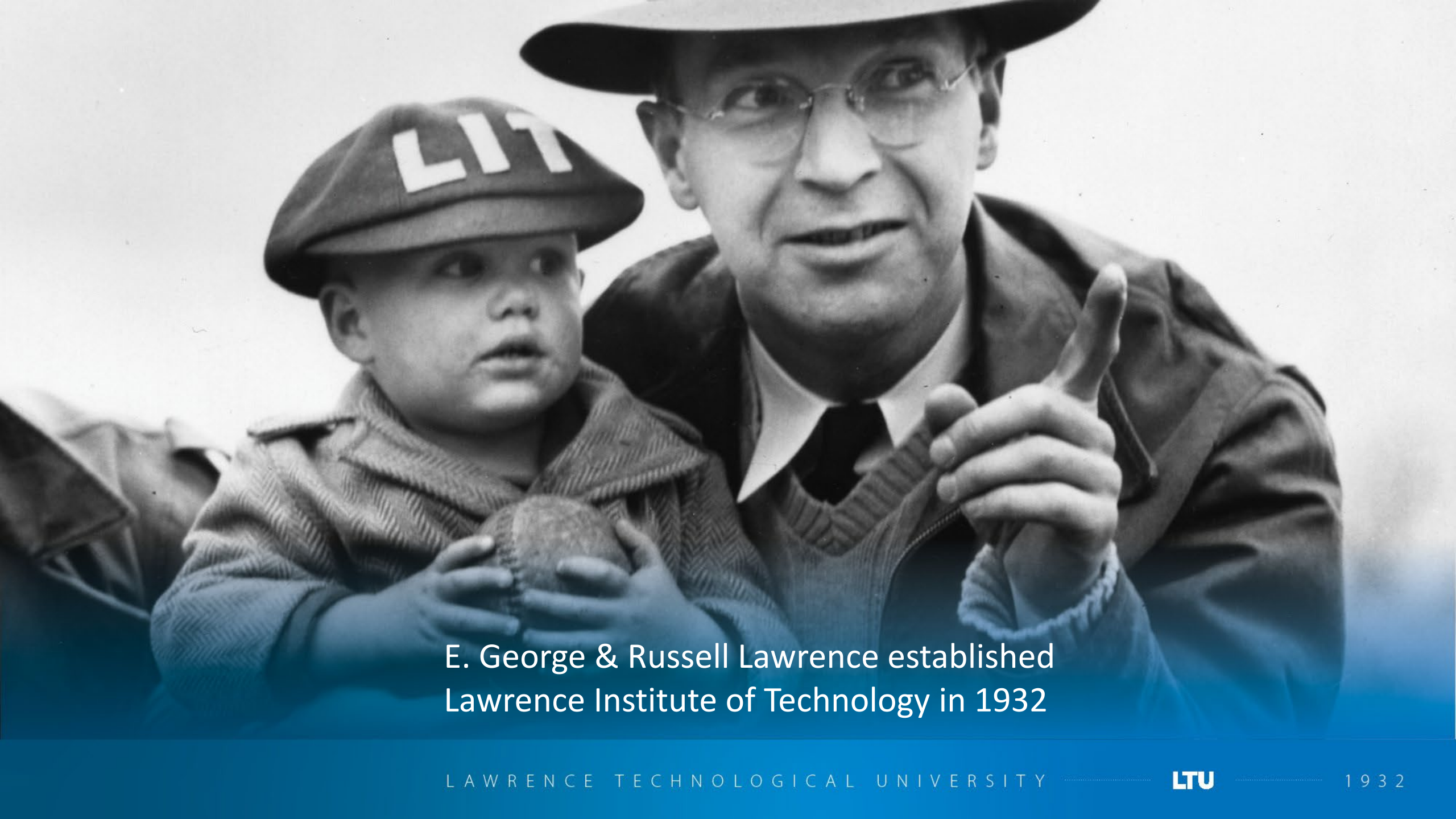
Michigan Concrete Association sponsored

**Bachelor of Science in
Concrete Technology & Management**

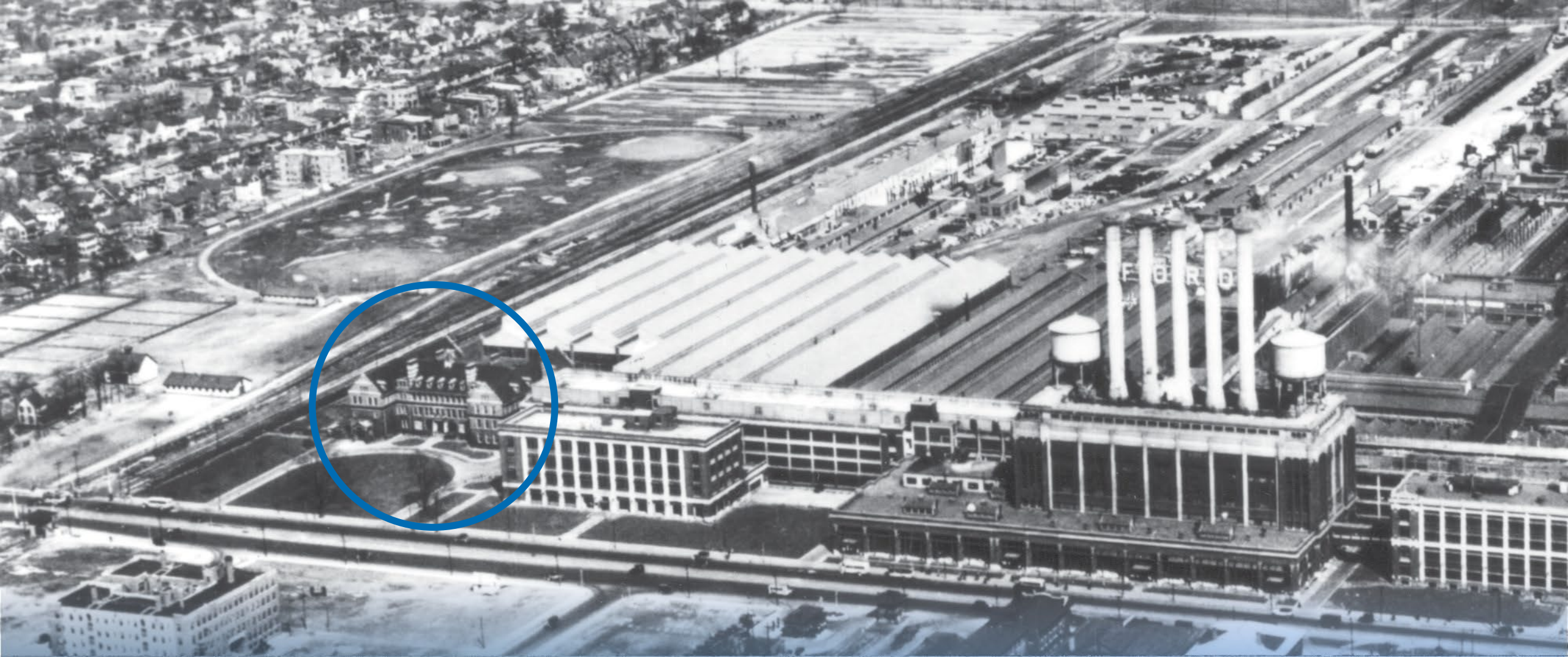


Elin Jensen, Ph.D.

Chair, Department of Civil & Architectural Engineering



E. George & Russell Lawrence established
Lawrence Institute of Technology in 1932



Original building leased from Henry Ford,
adjacent to the model T assembly plant.



RESIDENCE HALLS + TRANSIT



EAST
Freshmen housing



LLOYD E. REUSS
Community-style



EDWARD DONLEY
Apartment-style
1 and 2 bedroom

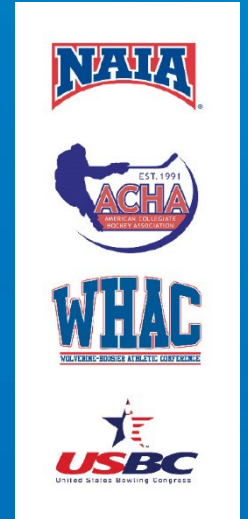


SOUTH
Apartment-style
1 and 2 bedroom



Easily get around with TECH TRANSIT

ATHLETICS Varsity and Intramural



Current Varsity Sports

Baseball (M)
Basketball (M & W)
Bowling (M & W)
Cheerleading (M & W)
Cross Country (M & W)

Esports (M & W)
Football (M)
Golf (M & W)
Hockey (M & W)
Lacrosse (M & W)

Soccer (M & W)
Softball (W)
Tennis (M & W)
Track and Field (M & W)
Volleyball (M & W)

Wrestling (M & W)

Dance Team
Marching / Pep Band

STUDENT ORGANIZATIONS + ACTIVITIES



Lawrence Tech (LTU)

- Motto: *Theory & Practice*
- Five Colleges
 - College of Engineering
 - College of Business & IT
 - College of Architecture
 - College of Arts & Sciences
 - College of Health Sciences
- Students – 3,000
 - 2,300 UG and 700 GR students
- Alumni
 - 33,197 Total alums
 - 16,398 Engineering alums



Lawrence Technological University FY2022

LTU Graduates

- Highest average starting salary in Michigan (2021, 2022 and 2023)
- 95% employed upon graduation

Economic Impact

**\$410
Million**

Total amount that LTU contributed in economic impact to Metro Detroit during FY 2022.

2,195

Number of jobs created in Metro Detroit because of LTU.

21,982

Number of LTU Alumni in Metro Detroit.

**\$382
Million**

Revenue Impact of LTU Alumni Owned Firms

Department of Civil & Architectural Engineering (CAE)

- BS in Civil Engineering
- *BS in Concrete Technology & Management*
 - *w/ Minor in Business Administration (BSCTM)*
- *Certificate in Concrete Technology (CCT)*

- MS in Architectural Engineering (integrated BS&MS)
- MS in Civil Engineering
- MA in Construction Engineering Management
- PhD in Civil Engineering



Project Time Line

- 2021-2022: MCA/LTU engagement
- 2022-2023: Curriculum development
BSCTM degree approved
Partnership agreement
- 2023-2024: Official program launch
CCT program approved
Marketing & recruitment
- 2024-2025: First cohorts (BSCTM & CTT)



Industry-University Partnership

Goal: to develop the future workforce and forming the framework for the future of the concrete industry.

Financial support of \$500,000

- Development & Operations / \$300,000
- Scholarships / \$50,000 per year #10/year

Curriculum, Internships, Practicums

Add. industry sponsored scholarships
Fessler Bowman (4 x \$6,000)

LTU STEM Scholarship - \$19,750 per year (FT)



Why Lawrence Tech?

- Long standing ties with the *Concrete Industry*
 - Practice, design, analysis and innovations
 - Construction engineering and management
 - Supportive College of Business & IT
- State-of-the Practice Laboratory Facilities
 - highly qualified staff
- Outstanding student support system



Laptop Program -- customized computer provided

Architecture + Design

Revit, 7 Zip, CATIA
AutoCAD Architecture,
Maya, Alias, 3DS Max
Adobe CCE
Rhinoceros, After Effects
Google SketchUp Pro
Expression Web 4
and more

Arts + Sciences

Business + IT

Engineering

AutoCAD
CATIA
Maple
Math CAD
Solid Works
RISA
Bentley



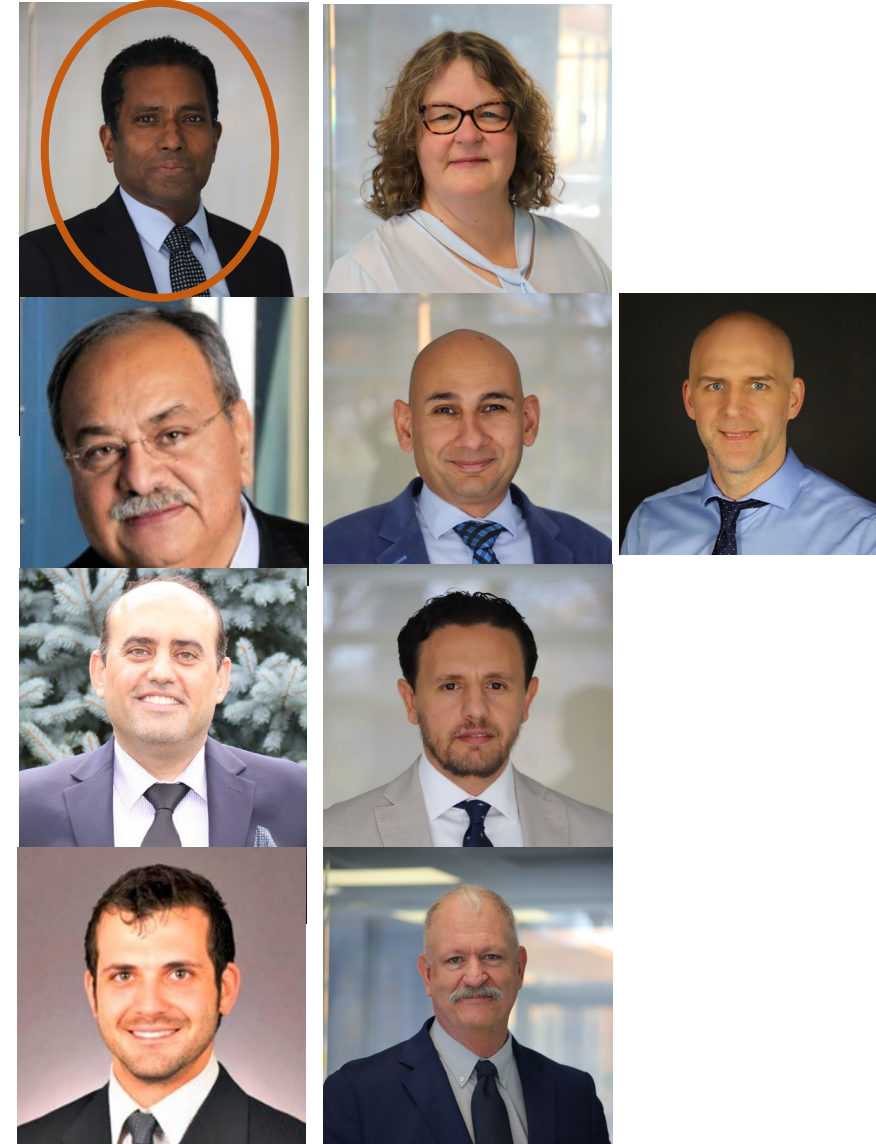
Faculty Resources

Five Faculty with expertise in concrete
+ 2 CTM faculty in Year 3 & 4

*Dr. Nishantha Bandara, PhD, PE,
CTM & CCT Program Director*

Two Construction Engineering Faculty +
~ 8 Construction Engineering Adjunct

Two highly qualified project engineers



BS in CTM CoBIT Faculty

- Principles of Economics
- Intro to Financial Accounting
- Principles of Mgmt
- Intro to Bus Law
- Principles of Marketing
- Human Resource Mgmt

Office of the Dean



Dr. Matthew Cole
Interim Dean



Donna Kress
Executive Assistant to the Dean



Mina Jena
Director of Business Programs



Stefanie Janes
Director of Student Success

Accounting & Finance Faculty



Dr. Sydul Karim
Assistant Professor



Dr. Pavlo Tsebro
Associate Professor



Dr. Yu (Tony) Zhang
Associate Professor



Dr. Seyed Ziae Mousavi Mojab
Assistant Professor



Dr. Areej Salaymeh
Assistant Professor

Information Technology Faculty

Management Faculty



Dr. Patricia Castelli
Professor



Dr. Bahman Mirshab
Professor



Dr. Massood Omrani
Participating Faculty



Dr. Kioumars Paryani
Participating Faculty



Dr. Srikant Raghavan
Associate Professor



Dr. Jacqueline Stavros
Professor

Marketing Faculty



Dr. Murat Hattat
Assistant Professor



Dr. Swati Verma
Associate Professor

Program Educational Objectives

BSCTM

The CAE Department will offer a ***Bachelor of Science in Concrete Technology & Management program with a minor in Business Administration*** where students acquire the education and skill set so that, as alumni, they achieve the following *program educational objectives*:

- Provide technical and managerial leadership in sustainable solutions to complex concrete projects ranging from buildings to heavy civil constructions.
- Apply and integrate efficient business solutions in the concrete industry.
- Deliver expert troubleshooting skills to correct issues related to concrete products.



CTM Program Highlights

4-year bachelor's program in Concrete Technology & Management with a Minor in Business Administration (120 credit hours)

- 18 concrete and construction-related courses
- 6 business and management courses
- 13 humanities and natural science courses
- 3 mathematics courses
- 1 civil engineering graphics class
- Required concrete industry practicum in fall of 4th year

Extra Curricular Opportunities

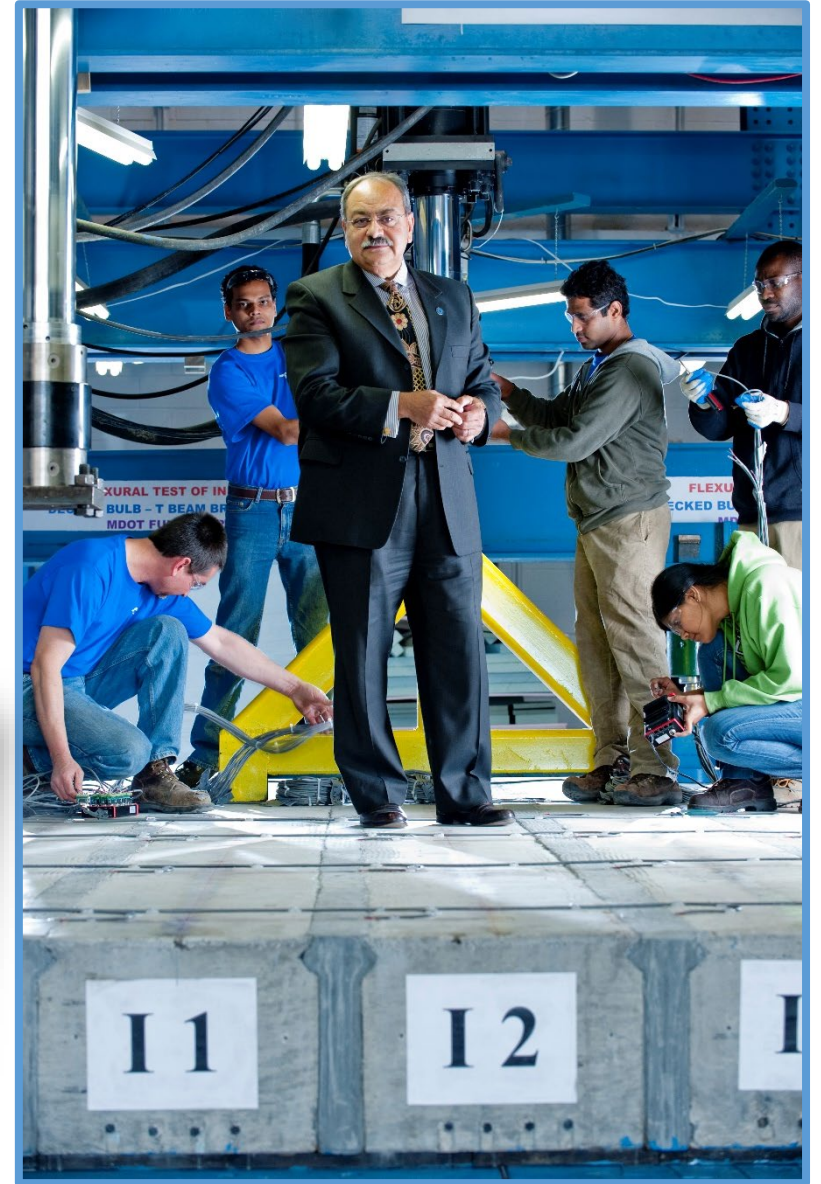
- Internship program with MCA member companies

CCT Program Highlights

2-year Certificate Program in Concrete Technology (16 cr. hours, part time)

- 6 concrete construction-related course including select two (2)
 - Concrete Applications – Heavy Civil & Highway
 - Concrete Applications – Buildings
 - Construction Engineering
- Incorporates certifications
 - Concrete Field Testing Technician - Grade I
 - Concrete Laboratory Testing Technician - Level 1
 - Concrete Strength Testing Technician
 - Aggregate Testing Technician - Level 1

Nabil Grace Center for Innovative Materials Research (CIMR)



Transportation Materials Lab



Concrete mixing



Slump



Air content – pressure method



Air content – volumetric method

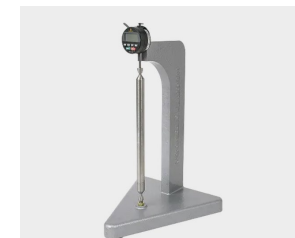


Concrete cylinders



Curing cabinet

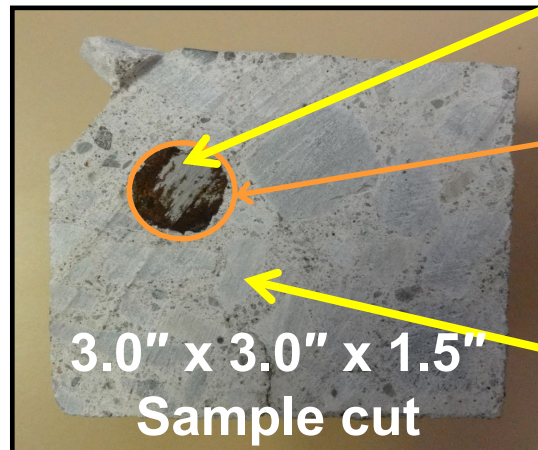
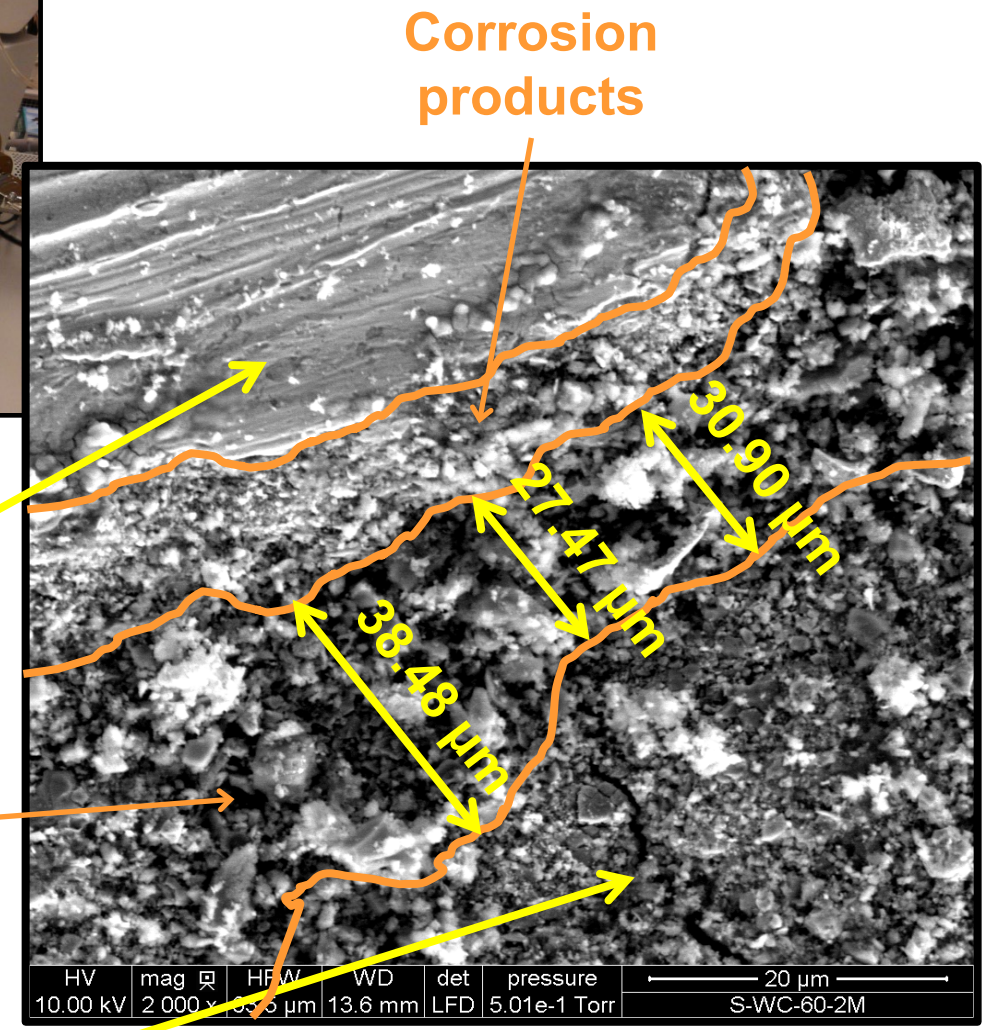
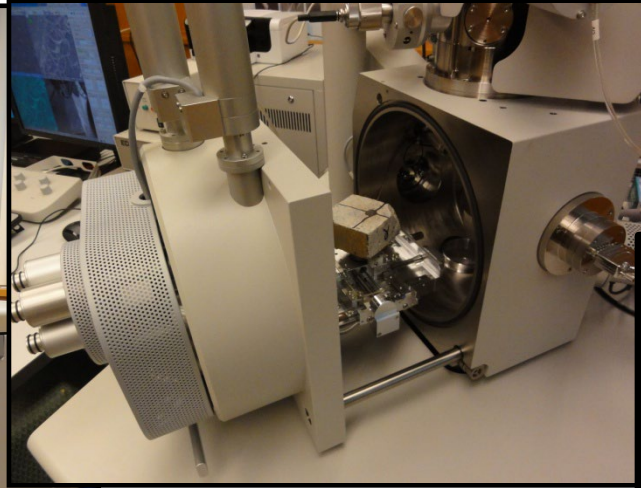
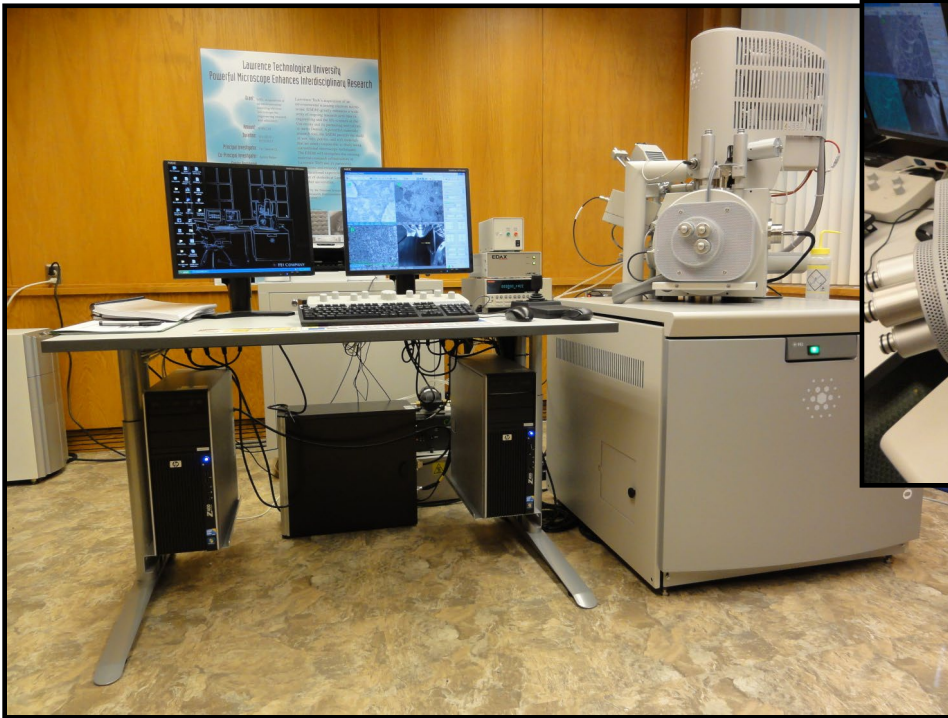
- 1,600 ft^2 facility
- Main lab to evaluate fresh concrete
- Usage: CE Materials and Industry Certification Courses (*MDOT- Density certification, MDOT-Aggregate Level 1 and Level 2 certification, ACI Level 1 Field Technician*)



Structural Testing Laboratory



Other Resources - ESEM



Rebar

Porous zone
(at interfacial)

Concrete

Corrosion products

2,000X magnified & examined using
Environmental Scanning Electron Microscope

Implementation Plan

Task	Academic Years						
	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
<i>Marketing/Recruitment</i>							
<i>Curriculum Development</i>							
<i>Equipment Purchase/Maintenance</i>							
<i>Offering of New Courses</i>							
<i>First New Faculty</i>							
<i>Second New Faculty</i>							
<i>Implementing Assessment Plans</i>							
<i>MCA Financial Contributions</i>							

Recruitment

- Oakland County Highschool Counselors Association Meeting (November 2023)
- Innovation Expo Day - for high school tech centers (December 2023)
- LTU Visit Day – sessions and lab tours (December 2023)
- E-mail campaign to high school admission counselors (January 2024)
- Social media campaign and printed material (since October 2023)
- Regular admission’s recruitment tours – ongoing

- Ongoing recruitment events (February and March)



