

Faculty

Nathan H. Gartner, Professor & Head; B.S., M.S., Sc.D. (Technion, Israel)

Environmental

Clifford J. Bruell, Professor & Coordinator, Environmental Studies Graduate Program; B.S. (Lowell Tech. Inst.), M.S. (U. Lowell), Ph.D. (U. Conn)

Kenneth Y. Lee, Assistant Professor, B.S.C.E., M.S.C.E., Ph.D. (Univ. of California Irvine)

Jackie Xiaohong Zhang, Associate Professor, B.S. (Tongji, Shanghai), M.S. (Tsinghua, Beijing), Ph.D. (Cincinnati)

Geotechnical

Pradeep Kurup, Professor; B.S. (Kerala U., India), M.Tech. (I.I.T., Madras), Ph.D. (L.S.U.), P.E.

Samuel G. Paikowsky, Professor; B.S., M.S. (Technion, Israel), Sc.D. (M.I.T.)

John M. Ting, Professor & Dean of Engineering; B.Eng. (McGill U.), M.S. (California Inst. Technology), Sc.D. (M.I.T.), P.E.

Structural

Susan Faraji, Professor; B.S. (Arya-Mehr U. Tech), M.S. (Northeastern), Ph.D. (UMass Amherst)

Oguz Gunes, Assistant Professor, B.S. (M.E.T.U., Ankara, Turkey), M.S., Ph.D. (M.I.T.)

Donald G. Leitch, Professor & Departmental Executive Officer; B.S. (Lehigh), M.S. (U. Colorado), P.E.

Transportation

Nathan H. Gartner, Professor & Head; B.S., M.S., Sc.D. (Technion, Israel)

Chronis Stamatiadis, Associate Professor & Graduate Coordinator; B.S. (Aristotelian U. Thessaloniki), M.S., Ph.D. (Michigan State)

Emeritus/Adjunct Professors: Sal Capobianco (P.E.), John Fitzgerald (P.E.), Nabil Hourani (P.E.), William B. Moeller (Ph.D.), Stephen Smith (P.E.).

"I am grateful for the education I have from UML – I feel prepared for a masters program I am attending in the fall and almost all my fellow classmates have found jobs in engineering fields and are already preparing for their first day at work."

Diana Timpson BS '05 (UML), MEng. '06 (Cornell)
KPF Consulting Engineers, Seattle



Introduction to Engineering Lab



Environmental Lab

Highlights

✓ UMass Lowell is *quality, hands-on education*; in a recent UML CEE Alumni survey, 96% said they felt they were *as well or better trained than their colleagues* from other universities.

✓ UML's Civil & Environmental Engineering is committed to *student-friendly, quality teaching*; classes in the Department are taught by the full time faculty, and class sizes are small.

✓ UMass Lowell is *value*; for 2006-07, tuition, fees, room & board for in-state full-time undergrad students is only \$14,964 for 2 semesters, *one of the lowest cost Engineering programs in New England* (tuition & fees - \$8,444 in-state, \$19,714 out-of-state).

✓ Extensive need and merit-based *scholarships* are available, including the College of Engineering's innovative *Scholar Intern program*, where qualified incoming undergrads receive a renewable entrance scholarship plus winter and summer internships from area companies.

✓ *Student satisfaction is high* with the UML CEE program; in a recent Alumni survey, 94% of responding Civil alumni said they would *recommend UMass Lowell to their siblings, family and friends*.

✓ UMass Lowell is the *only public-assisted, ABET-accredited engineering program* in the Boston metropolitan area, only 30 miles from downtown Boston, with commuter rail directly from Lowell to North Station.

✓ UMass Lowell means business! A *Minor in Business Administration* for Civil & Environmental Engineers is available with a focused program of study and 3 additional courses.

✓ UMass Lowell is a *great place to start*. CEE Graduates have gone on to senior management positions in major corporations, formed their own engineering firms, gone on to some of the world's most prestigious graduate schools.

✓ UMass Lowell has *service projects*. UML is developing domestic and foreign service infrastructure projects and is planning on infusing *Service Learning* throughout its undergraduate curriculum.



For more information, visit our web site at civil.uml.edu
Request or download our Student Handbook!



Francis College of Engineering

Civil & Environmental Engineering



Boston's Zakim bridge—Oil painting by Alix Porras (alixart.com)

Building Society's Infrastructure

Dept. of Civil & Environmental Engineering

University of Massachusetts

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Prof. Nathan H. Gartner, Department Head

Civil & Environmental Engineering

Civil engineering is the oldest engineering discipline that encompasses many specialty areas including environmental, structural, geotechnical, transportation, water resources, and construction. Civil engineers design and supervise the construction, operation, and renewal of roads, bridges, buildings, airports, tunnels, dams, and water supply systems. Environmental engineering specialty deals with local and worldwide environmental issues such as water and air pollution control, waste water treatment, hazardous-waste management, and global warming.

Employment

As the largest engineering community, civil engineers held about 237,000 jobs in 2004[†]. Over 40% are employed in firms providing architectural and engineering services, more than 30% are in federal, state, and local government agencies, and the construction industry is accounted for most of the remaining employment. Nearly 7% of all civil engineers are self-employed, many as consultants.

Job Outlook

Spurred by the population growth, aging infrastructure, increased emphasis infrastructure and security, and environmental concerns, demand for civil and environmental engineers is expected to increase in the future. Between 2004-20014, the projected growth in numbers were estimated as 9-17% for civil engineers and higher than 27% for environmental engineers.

Earnings

Median annual earnings of civil engineers was \$64,230 in 2004. According to a 2005 salary survey by the National Association of Colleges and Employers, bachelor's degree candidates in civil engineering received starting offers averaging \$43,680 a year.

"The education I received at UML allowed me to choose whatever path I wanted after graduating: from pursuing a Ph.D. at MIT to pursuing job offers. Over the four years at UML, I learned not only about engineering, but about myself – really an invaluable experience."

Mary McCormick BS '06 (UML), MS '08 (Tufts)



Civil engineering candidates at a site visit

Why come to UMass Lowell for Civil and Environmental Engineering?

❖ *UMass Lowell prepares you for an engineering career* in local industry, consulting firms, state and federal research and regulatory agencies

Careers include structural, bridge & foundation design, highway and transportation design & planning, environmental impact assessment, planning, design & remediation, construction supervision.

Recent grads are working at Mass Highway Dept., E.P.A., Stone & Webster, U.S. Army Corps of Engineers, FAA, GZA GeoEnvironmental, CDM, Modern Continental and many state & federal agencies, consulting and contracting companies in New England.

❖ *UMass Lowell gives you the technical training & flexible problem-solving skills that are valued in other professions;* graduates have gone on to careers in law, financial analysis, software development, business

UML Civil Alumni include: Senior Vice President, AOL
Vice President, Chase Manhattan Corp
Senior Vice President, Duke Energy (\$29B assets)
Vice President, Marsh McLennan (\$7B securities co.)
Vice President, Jacobs Engineering (\$4B annual revenue)
Vice President, Allied Waste (2nd largest in world)
Vice President, URS Greiner Woodward Clyde

❖ *UMass Lowell helps you upgrade your engineering qualifications* - at UML or in graduate engineering programs elsewhere.

Recent grads have successfully gone on to Civil Engineering graduate programs at M.I.T., U.C. Berkeley, Rensselaer Polytechnic Institute, Cornell, U. Illinois.

❖ *UMass Lowell helps you make a difference in the world!* - recent graduates include the NSPE 2002 National Young Engineer of the Year, who worked with infrastructure development in Ecuador & Haiti; project-based opportunities will exist for student projects in developing nations through the new Service Learning Initiative in the College of Engineering; there is an existing Graduate Certificate in Sustainable Infrastructure for Developing Nations.

2006-07 Yearly Tuition and Fees

- ❖ fulltime undergrad \$8,444/yr (\$19,714 out-of-state)
- ❖ fulltime undergrad including dorm + meals \$14,964
- ❖ grad students \$1,338/course (\$2,636/course out-of state)

"We look to UMass Lowell every year for bachelor's and master's level engineers, and each year we add new graduates to our staff. We have been consistently pleased with the results, and are proud to say that UMass Lowell has helped GZA succeed in our business."

- Bill Hadge, Principal, GZA GeoEnvironmental, Newton.

Programs of Study

Bachelor of Science in Civil Engineering

- ❖ 128 credits of primarily daytime courses
- ❖ thorough & rigorous training in the science, engineering and technology required for the practice of Civil & Environmental Engineering
- ❖ emphasis on hands-on experimental, computer-based and classical methods of analysis and design
- ❖ training suitable for entrance into the practice of engineering as well as graduate studies
- ❖ *Minor in Business Administration* available with focused program of study for Civil & Environmental Engineering; requires total of 3 additional courses
- ❖ *Minor in Computer Science* possible with focused program and a total of 3 additional courses
- ❖ *Minor in Mathematics* available with additional 3 courses

Master of Science in Civil Engineering

- ❖ all graduate courses available during evening hours
- ❖ 30 credits of courses which can include an optional 3 credit project or 6 credit thesis
- ❖ specializations exist in each of the main areas within Civil & Environmental Engineering

BS/MS in Civil Engineering

- ❖ academically qualified undergraduates (cum GPA > 3.0) may enroll in a special 5 year BS/MS program which allows for up to 6 credits of graduate level course work to be used for both undergraduate and graduate degrees.
- ❖ extra graduate courses taken while an undergraduate (which are not otherwise needed for graduation) may be transferred towards the graduate degree

Master of Science in Environmental Studies

- ❖ open to individuals with degrees in technology, physical sciences or biology
- ❖ 30 credits of evening courses (thesis optional)

Doctoral Programs

- ❖ Doctor of Engineering
- ❖ Ph.D. in Chemistry (Environmental Studies)

Co-op Program

- ❖ *Flexible co-op program* allows course credit for relevant engineering experience.



Testing a concrete beam, Materials lab



Surveying lab

[†] Occupational Outlook Handbook, 2006-2007 Ed., U.S. DOL, Bureau of Labor Statistics.