Celebrating the Past
Building the Future

A Historical Perspective of Construction Education at Colorado State University

College of Applied Human Sciences
Students in the early years practice shooting grades on the Oval.

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Dear Friends,

The inception of Colorado State University’s construction education program is directly tied to our industry’s and our nation’s needs at the end of World War II.

In 1946, thousands of veterans were returning home from the war, enrolling in college, starting jobs, marrying, and beginning families. Americans needed homes, schools, offices, libraries, hospitals, factories, and stores – and the infrastructures needed to support daily living. The light construction industry was expected to double in the post-war economy.

Colorado Agricultural and Mechanical College, the land-grant school in Fort Collins now known as Colorado State University, had the mission of imparting both a liberal arts and a practical education, particularly in sciences pertaining to agriculture and the mechanic arts.

Beginning with the school’s earliest days in the late 1800s, students spent mornings in the classroom and afternoons in the field applying what they’d learned. By the time they graduated, they had acquired practical experience in mechanics, science, agriculture, chemical analysis, field surveys, leveling, platting, and more.

This hands-on education in diverse subject areas was one reason the school was selected in 1946 to prepare graduates who could effectively manage the country’s construction projects. A higher education-industry partnership set the wheels in motion.

Industry leader Johns-Manville had conducted research showing that trained construction professionals needed to acquire knowledge in 50 subject areas, from aesthetic design and sewage disposal to concrete mixing and human relations. Armed with this knowledge Johns-Manville partnered with other building companies to provide funding and guidelines to establish construction education degree programs at choice schools nationwide.

As one of those schools, Colorado A&M developed Light Construction and Marketing, a program that included courses ranging from chemistry, mathematics, and woodworking to contracts and specifications, business administration, and technical writing. This forerunner to today’s Construction Management program was the first interdepartmental curriculum ever to be approved by the State Board of Agriculture. Ten students were in the first graduating class in 1949.

Construction Management at Colorado State has come a long way since the early years. The last decade has brought about the program’s greatest growth surge – in student enrollment and also in the breadth of teaching, research, outreach, and fundraising activities. Our program’s centers and institutes provide research and hands-on opportunities for faculty and students as they work with industry partners to address real-life construction issues.
Today, Colorado State’s Construction Management program is housed within its own department and produces more than 200 graduates each year. In the 2005-06 academic year, the Department of Construction Management was the third largest academic department at Colorado State.

The higher education-construction industry partnership that started it all is more vital today than ever before. The Joseph Phelps Internship Placement Office matches students with employers for required internships and to work in permanent jobs. Industry partners contribute to creating a more professional learning environment and a curriculum focused on industry issues and needs. Faculty and students work closely with industry to address real-life construction issues.

In 2006, as we celebrate Construction Management’s 60th anniversary, we also celebrate its emergence as the largest and among the top-ranked construction education programs nationwide.

Presently, we are working to renovate all our facilities, addressing issues of sustainability and historic preservation, to create a professional looking environment to support the students we are preparing to be professionals in the industry. We are establishing more and more endowments, so we have a perpetual source of funding for program enhancements, student competitions, and faculty development. We are bringing closure to a revitalized curriculum modeled after construction management practices the industry uses today or is moving toward using in the future, including expanded use of technology.

I believe the steps we are taking today will bring us closer to my vision for our program’s future: to endow a School of Construction Management at Colorado State.

In 1965, one of our graduates, Kenneth D. Kneivel, did his thesis on the history of construction education at Colorado State. He wrote, “It is well to remember that each stage in the history of construction has made its contributions, and each is important in a total picture of our advancement in education and industrial know-how.”

I invite you to peruse this booklet – a synopsis of our program’s history and highlights – and gain an appreciation for the origin, growth, and changes that have led to our program’s success. We have you, our students, faculty, alumni, and industry friends, to thank.

Larry Grosse, Ph.D.

Head, Department of Construction Management
September 2006

The story of Colorado State University’s Construction Management program is one of faculty, students, and industry working together to meet the building needs of the world’s most prosperous nation.
The Early Years
Laying the Foundation for a Construction Management Program

1879
State Agricultural College in Fort Collins, Colorado, opens. Its mission: “to impart a thorough and practical knowledge of all those branches and sciences that pertain to agriculture and the mechanic arts…to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.”

1881
Mechanical engineering is first offered. Industrial Arts, Industrial Construction Management and today’s Mechanical Engineering courses all evolved from this early course, whose content included stresses on roofs and bridges; construction of farm buildings; roads; pure mechanism; work and strength of machines; farm implements; and machinery.

historical snapshot
Prior to the late 1800s there wasn’t a construction industry. An architect served as both designer and construction manager and was often referred to as the “master-builder.”
1908

School catalog states: “The development of Colorado and the activities in the West in general have brought many young men trained in Mechanics Arts into prominence. The demand now is for men who can do things, and the object of the Division of Mechanics Arts is to train young men in this line, that they may later do credit to the State, and to themselves in industrial lines.”

1937

A General and Industrial Arts Engineering program is added to the Division of Engineering “to meet the demands of business for engineering graduates having training not too specialized along technical lines, but with certain manual skills, and aug-

In the 1930s the construction industry, as we know it today, was less than 50 years old and management training was performed on the job.
The high altitude oven hidden behind a wall in Construction Management Professor Steve Jaouen’s office will always be a reminder that Guggenheim Hall served the Home Economics program before becoming home to the Department of Construction Management. Home economics Professor Inga M. K. Allison helped develop the high-altitude laboratory in 1927, to study the impact of altitude on recipes developed at lower elevations and to adapt bread and cake recipes for baking at high altitudes.

1939
Industrial Arts Engineering becomes Industrial Arts and remains a part of the Division of Engineering.

1942
General and Industrial Arts program is dropped due to World War II.
A study conducted by Johns-Manville concludes that the “building industry cannot operate efficiently in the public interest without more and better trained manpower,” and that it is necessary for trained professionals to acquire knowledge in 50 subject areas. The company and other industry partners provide funds to Colorado A&M to establish the college’s first interdepartmental degree program: Light Construction and Marketing. In its first year, the program includes courses in inorganic chemistry, English composition, America as a World Power, blacksmithing, freehand drawing, woodworking, mathematics, physics, military science, physical education, surveying, construction materials, mechanics, economics, geometry, theory of structures, contracts and specifications, technical writing, public speaking, psychology, finance, marketing, machine
woodworking, architectural drawing, concrete design and laboratory, business administration, labor economics, rural electrification and sanitation, and more.

The program is administered by the Department of Industrial Arts in the Division of Engineering. Leslie L. Gibbons and James C. Dodge, formerly mechanical engineering professors, join the Industrial Arts faculty.

**Academic Year 1945-46**

Annual tuition and fees:
Resident, $125; Non-resident, $178.

Students rally to make the Rams, rather than the Aggies, the new school symbol.

War ends Aug. 15. Colorado A&M enters into an agreement with the Veterans Association to train

Students in the first graduating class of 1949 were: Rudolph J. Bonatti, Frank D. Brown, Wilbur H. Hoff, Horace F. House, Thomas W. Lindblom, Earl W. Merry, Dean A. Nieder, Jay C. Paterson, Jack N. Washichek, and Paul S. Wennerstrom.

Colorado State’s construction education program originally was called Light Construction and Marketing. The curriculum was designed to “prepare men for service in the building industry.” Today’s Construction Management program is proud to serve students of both genders. In the 2006-07 academic year, women represented 10% of students enrolled in the program.
disabled servicemen and plans the construction of a men’s dorm.

In the fall quarter, the college has 1,037 students enrolled, 225 of whom are veterans. By the following April, two-thirds of the 1,600 students enrolled are veterans, and the campus has a major housing problem.

Professor George F. Henry is named Head of the Industrial Arts department.

1949
The first class of ten Light Construction and Marketing students graduates.

1950
The first description of Light Construction and Marketing appears in the Colorado A&M course catalog: “The shortage of housing over the country emphasizes the need for the building of houses and farm buildings. The indications are that light construction in the future will draw heavily on various new plastic and wood products and will employ new techniques in the use of these products. This points out the need for men capable of entering into such a building program, both as builders and as salesmen for building products. To meet this demand the course in Light Construction and Marketing is being offered…. This course has been designed to give training in the necessary engineering and mathematical subjects accompanied by training in marketing and business practices. It leads to a Bachelor of Science degree.”

Academic Year
1955-56
Annual tuition and fees: Resident, $183; Non-resident, $240. Light Construction and Marketing student enrollment: 39.

1957
Colorado A&M College becomes Colorado State University. Light Construction and Marketing program moves from the School of Engineering to the College of Sciences and Arts. For the first time, the course catalog targets the course description to all students, not just men.
historical snapshot

Joseph Phelps, one of the earliest and most celebrated CSU construction management graduates, never made it to his 1951 graduation ceremony. He was on his way to serve in the U.S. Navy. Joe later joined his father as a partner, and they incorporated as Hensel Phelps Construction Co., a general contracting and residential construction business. Today, Hensel Phelps Construction Company’s annual revenues approach $2 billion, and Joe is a successful vintner in Napa Valley, Calif. In 2004, he received from Colorado State an Honorary Doctor of Humane Letters, the highest honor the University bestows.

Dr. Joseph Phelps, ’51, left, says that receiving an honorary doctorate from Colorado State University “felt pretty fantastic.” He is pictured here during Commencement 2004 with University President Larry Edward Penley.
Industry Enters the Classroom

1959

Department Head George Henry retires and L.L. Gibbons succeeds him. The department is located in the Arts Building on the northeast side of campus. An internal advisory committee is formed and renames the program Industrial-Construction Management (ICM). The committee includes faculty from Industrial Arts, Vocational Education, Civil Engineering, Business, Forest Management and Utilization, and the Colorado State Board for Vocational Education.

The revised curriculum is “designed to give the student an understanding of the basic and applied sciences and business. This broad training prepares the student for management careers in light or heavy construction or in industrial production and distribution. Students are encouraged to obtain employment in the field of their interest during the summer vacations.”

ICM enjoys unprecedented growth, attracting high-quality male and female students. Within three years, program enrollment triples, from 50 to 150 students.

1959 1960 1961

historical snapshot

“In the 1960s, CSU was in the same boat as all the other early programs: Where does a CM program belong? It doesn’t fit the historical mold of academic programs. Some schools placed it in business or engineering or architecture or agriculture. Some construction programs were in the engineering department under the title of ‘construction engineering’ and some still are.”

James W. Young, Emeritus Faculty, 1962-1992
1962

James W. Young is the first full-time construction education professor hired specifically from industry to teach in the Industrial-Construction Management program. Named Program Coordinator of Light Construction and Marketing, Young increases industry liaisons, initiates numerous curriculum changes to address the needs of industry, and, later, is a founding member of the Associated Schools of Construction. The ICM program is housed within the Industrial Arts Annex, formerly the Horticulture Building.

Lory Student Center, built in 1962, replaced the old Student Union that was built in 1936 and which, today, is Johnson Hall.
1964

The first courses labeled with the Construction Management prefix are added to the curriculum. They are CM10 Construction Mechanics, CM15 Professional Opportunities in Industrial-Construction Management, CM19 Building Materials and Equipment, and CM20 Wood Construction and Management. The program’s main professors are Jim Young and R.A. Johnson.

Nationally, total new construction expenditures in the first 8 months of 1964 amount to $42.5 billion compared with $39.5 billion in the same period of the previous year.

1965

Master’s degree candidate Kenneth D. Knievel completes his research thesis on the history of construction education at Colorado State. In his thesis, he notes: “The historical background [of the ICM program] is interesting in that it reflects the constantly changing role that education plays in fitting young people for their place in life…. The fantastic rate at which building construction has advanced makes the need for an evaluative study of school curriculums in this area almost a continuous necessity.”

In March, Jim Young joins 13 other construction education faculty from 8 universities to explore forming an association of construction educators. The minutes of the initial meeting state: “In the early 1960s, it was noted that of the many existent professional and educational societies concerned with building, none provided a place, a welcome, or any benefit whatever for curriculums with the teaching of construction as a major objective.”

Young is the first to receive industry support to attend the National Associated General Contractors Annual Meeting, thanks to Hensel Phelps, which paid for Young’s expenses and airfare to Washington, D.C. Young’s attendance at this meeting was the start of a long relationship between Colorado State’s ICM program and the AGC’s Education Committee. This committee developed comprehensive recommendations for education for the construction industry, which were used to develop the ICM curriculum.

1966

In the 1960s, Jessie Provost, the first woman to graduate from the ICM program, became the first female project engineer at Hensel Phelps.
### Academic Year 1965-66

Annual tuition and fees: Resident, $240; Non-resident, $480. ICM student enrollment: 197, second only to Arizona State's enrollment of 200 students.

CM courses in Architectural Drawing and Estimating, Mechanical Systems for Construction, and Construction Estimates and Costs are developed and added to the curriculum.

Young becomes the first ICM faculty to have a working relationship with industry, which leads to an ASC recommendation that faculty engage in construction internships to update their knowledge of the industry.

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### Historical Snapshot

Before moving into Guggenheim Hall, the Department of Industrial Sciences was housed in the Industrial Science Building along the railroad tracks, which it shared with the art department. Professor James Parnell had turned the old foundry at the southeastern portion of the building into a construction laboratory. In 1974, the art department moved into its new, and present, building on the south side of campus.

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“One of the unique attributes of this course has been its breadth and its ability to absorb people from other majors and offer them a chance to use many of the courses already taken as requirements in the major.”

Professor L.L. Gibbons, ICM department head, as reported in the ICM Course of Study, an unpublished letter to the ICM Advisory Committee.
of Humanities and Social Sciences. ICM is listed in the catalog as a non-departmental major. Professor James W. Young is in charge. Classes are held in the Industrial Arts Building.

**historical snapshot**

“Establishment of the Associated Schools of Construction had the single greatest impact on our program’s direction. Everyone in the ASC realized that our program’s future depended on developing consistent goals for the direction of construction education. While establishing those goals took quite some time, the ASC and the subsequent development of the American Council for Construction Education were the keystones that made the University acknowledge the value of this program.”

*James W. Young, Emeritus Faculty, 1962-1992*

**1969**

The course catalog describes ICM as an “interdisciplinary curriculum designed to provide the student with an understanding of the applied sciences, engineering, business, and construction.” A University-Industry Advisory Committee includes faculty in Forest and Wood Sciences, Civil Engineering, Business, Industrial Arts; two representatives from the Associated General Contractors of Colorado and Colorado Contractors Association; and one member representing general industry.

**1970**

B.D. Hayes comes on board as professor and head of the ICM program, and seven new courses are added to the curriculum: Construction Equipment, Construction Techniques, Residential Construction Planning, Mechanical Systems I and II, Architecture and Construction Materials, and Plans and Specifications.

**historical snapshot**

When James Parnell arrived at Colorado State in August 1972 to teach in the Department of Industrial Sciences, Department Head Bill Hayes handed him some purchase orders. Pointing to an empty space inside the Industrial Sciences Building, Dr. Hayes said, “Jim, your office will be right over there. Go to the lumberyard and buy what you need to build yourself an office.”

“Our department has only begun to function under the concept of Industrial Sciences. In the year ahead our three major courses of study and our service areas will grow and solidify and in doing so will truly exemplify the philosophy of a balanced and integrated department.”

*Dr. B.D. Hayes, Department Head, reporting in the 1971 ICM SpecWriter*
The “A” on the foothills is a reminder of the Aggies.
“Students dubbed Professor James Parnell’s lectures as 2-for-1 classes, because students received twice as much information from Parnell’s lectures than from any other classes they were taking.”

Richard Dunn, Professor, 1984 to 1996

1971

The Department of Industrial Arts is renamed Department of Industrial Sciences and includes majors in Industrial Arts, Industrial-Construction Management, and Manufacturing. The ICM course description notes that the program is “affiliated with the Associated Schools of Construction and follows subject area guidelines developed by the Associated General Contractors-Associated Schools of Construction Joint Construction Education Committee.”

Courses in Construction Administration, Construction Planning and Scheduling, and Soils Engineering and Foundations are added to the curriculum. The ICM program receives a grant from the Associated General Contractors of Colorado to keep current with developments in the construction industry. Funds are used for classroom materials, films, guest speakers, trips to job sites, a bullhorn (for use in the department and on field trips), and to send faculty to the AGC national convention and the ASC annual conference.

Part of the unique history of the Industrial Sciences Building is its third floor, where a 30-foot length of railway rail, weighing approximately 1,100 pounds, is housed. Too large and too heavy to remove, the rail is now partially hidden by a new wall. In the 1970s, when he was a student, Steve Jaouen, now a Construction Management professor, remembers that the long, narrow, third-story space was also ideal for an archery practice range where he and other students practiced their skills.
**1973**

ICM faculty teach fundamentals of construction to members of the Denver chapter of the National Association of Women in Construction.

**1975**

The College of Professional Studies is formed, and the ICM major becomes part of that college, along with communication disorders, education, physical education, and vocational education. Dr. Young departs to begin a new CM program at the University of Southern Mississippi. Dr. Don Martin serves as acting program coordinator.

**Academic Year 1975-76**

Annual tuition and fees: Resident, $656.50; Non-resident, $2,082.50. ICM student enrollment: 199.

The College of Professional Studies, Department of Industrial Sciences and Industrial-Construction Management program move into Guggenheim Hall, a building whose classic columns and elegant architecture continues to be home to today’s Department of Construction Management. The National Center for Vehicle Emissions Control and Safety is founded by the U.S. Environmental Protection Agency and housed within the ICM program. The center assists states nationwide in developing vehicle emissions control programs and sponsors an annual Clean Air Conference that brings together experts nationwide to discuss global air pollution issues.

**1977-78**

Assistant Professor Gary B. Gehrig becomes ICM Program Coordinator.

“...The first courses I taught when I was hired in the early 1960s were three different courses in architectural drafting plus construction specifications and contracts. I also taught a descriptive geometry course, which, thankfully, had several sharp students who worked problems ahead of me, so I could be comfortable presenting each problem to the class. Between lectures and labs, a teaching load might be as much 24 to 28 classroom hours, which didn’t leave much room for ‘development’ work, student advising, etc. Research efforts were little emphasized in the department early on.

“At one time or another, I taught construction materials, estimating, and construction safety. I also originated a course in specifications and contracts shortly after arriving. Later, I developed courses in estimating and remodeled the architectural courses to include construction methods. I also developed an orientation course to the construction industry, a course in project administration, and a construction marketing course for the graduate program.”

*James W. Young, Emeritus Faculty, 1962-1992*
1979
The American Council for Construction Education is established to serve as a construction education accreditation agency. The ACCE establishes curriculum standards and serves as a quality insurance tool for construction education programs nationwide.

1981-82
A 24-credit minor in residential construction is offered to provide students an opportunity to study the basic concepts of construction materials, techniques, design, and management necessary to function in the residential construction industry. An ICM master’s degree program is developed to prepare graduates for management positions in a variety of construction-related organizations. Graduate students choose a program of study that includes technical course work taken within the Department of Industrial Sciences and the College of Engineering, along with business/management coursework from within the College of Business.

1983
Colorado State’s ICM program is ranked among the top 20 construction education programs in the nation.

1984
Professor B.D. Hayes retires as head of the Industrial Sciences department.

1985
Colorado State’s ICM program is accredited by the ACCE.

1986
CM program celebrates its 40th anniversary. Alumnus Joseph Phelps is honorary chair of the planning committee.

Academic Year 1985-86
Annual tuition and fees: Resident, $1,503; Non-resident, $4,699. ICM student enrollment: 347. Professor Marion T. Maness serves as Acting Head of the Department of Industrial Sciences.

Jim Young, far left, looks on as a donation is made to the program.
1987
Associate Professor John R. Sutton is named Head of the Department of Industrial Sciences. To more accurately reflect the broad scope of the program’s students and course offerings, the ICM program is renamed Construction Management and celebrates its 40th anniversary in conjunction with the University’s Family Reunion Weekend. The program has more than 350 undergraduate majors, approximately 30 master’s degree candidates and a waiting list to get in, and is among the University’s top 5 majors.

1988
Construction Management program becomes a part of the new College of Applied Human Sciences, which replaces the College of Professional Studies.

1989
Colorado State’s CM program is part of a consortium of University-based housing research centers forming the Affiliated Housing Research Center. The consortium facilitates and develops housing research projects in conjunction with the National Association of Home Builders National Research Center.
Professor Richard Dunn’s Architectural Design and Construction Drawings class had a reputation for being one of the most time-intensive courses on campus. During fall semester finals in 1992, students filed into the classroom wearing T-shirts that read “I Survived IS 232.”

1990
Colorado State’s CM program is ranked as one of the top 5 construction education programs in the country.

1992
James W. Youn, the first program coordinator for construction education at Colorado State, retires after 19 years of involvement with the program.

1994
The Institute for the Built Environment is established to foster stewardship and sustainability of the built environment through interdisciplinary teaching, research, and service.

         Professor Sutton retires as Department Head.

Academic Year 1995-96
Annual tuition and fees: Resident, $2,708; Non-resident, $8,996. Undergraduate and graduate student enrollment: 360.

         Professor Kevin Oltjenbruns serves as Interim Head of the Department of Industrial Sciences.

1996
Dr. Larry Grosse becomes the first department head to come from a construction management background. The CM program has 434 undergraduate and graduate students. Professor Grosse establishes the Professional Advisory Development Board, a group of 100 industry representatives supporting the Construction Management program and providing input on its direction.

A 50th anniversary gala takes place, celebrating the near completion of a $1.5 million fundraising campaign to benefit three facets of the program: creation of a permanent Internship Placement office; upgrading of CM classrooms; and establishment and support of a program of applied research and outreach designed to meet the needs of the construction industry.
In 1996, to commemorate the Construction Management program’s 50th anniversary, Construction Management students built and donated a three-story addition and renovation to the Larico Center, now known as Turning Point Center for Youth and Family Development.

The department name is changed from Industrial Sciences to Manufacturing Technology and Construction Management and includes three undergraduate programs: Construction Management, Industrial Technology Management, and Technology Education and Training.

Hensel Phelps Construction Co. partners with the department to create the first named classroom. Dr. Gehrig retires as Program Coordinator. Dr. Allan Hauck is appointed CM Undergraduate Coordinator and Dr. John Murphy CM Graduate Coordinator.

1997

CM enrollment of 458 undergraduate students and 22 graduate students necessitates developing enrollment controls. Students are required to complete a Pre-Manufacturing Technology and Construction Management Program, in which they acquire a foundation in leadership, computer skills, and design and materials and methods.

The CM program course catalog description reads: “Construction Management addresses issues related to the management of multiple project sites and the applications of resource management, schedule control, cost control, design, and other requirements of the construction process. Design elements concentrate on the relationship between the built environment and the comfort of its inhabitants while safety education emphasizes the health of the individual worker. Students are required to complete 6 months of internship placement before graduation. CM is a controlled major, requiring students to attain a specified GPA and complete the Pre-MTCM program.”

Before graduating, CM students must complete the new MC487 Phelps Internship Placement Program, a career-development course in which interns work in paid positions with sponsor companies to gain hands-on experience in the construction industry. The internship includes...
course objectives, assignments, evaluations, and traditional grading.

A named classrooms program is created to raise funds to renovate and create “smart” classrooms in Guggenheim Hall.

On July 28, 1997, a 500-year flash flood ravages the city and main campus, taking 5 lives and causing devastating damage to Morgan Library, the Lory Student Center, and numerous other buildings on the main campus.

The Architectural Preservation Institute is founded to promote excellence in the implementation of historic preservation related projects. The institute provides research, outreach, educational opportunities, and resources to the preservation community at large, empowering people with the knowledge and skills to “sensitively and skillfully preserve our heritage into the future.”

**historical snapshot**

The flash flood that swept across campus on the night of July 28, 1997 left many administrators in the College of Applied Human Services without offices. Guggenheim Hall and the Industrial Sciences Building, however, sat above the floodwaters. In the days following the flood, CM faculty and students helped the College’s administrators relocate to temporary offices in the IS Building, moving furniture and setting up electricity and telecommunications. “I think this unfortunate event helped facilitate among our colleagues a greater understanding of who we are and what our capabilities are.”

_Larry Grosse, Head, Construction Management, 1996-present_

The Department created a plaque and placed it to record the high water mark on the south entrance to Guggenheim Hall.
“I love the students’ enthusiasm. What’s different today from 20 years ago is that there are more females in my classes. They’re much more willing to ask questions. There are also more nontraditional students in the classroom, and they enhance the class by sharing some of their own experiences.”

Steve Jaouen, Construction Management faculty, 1990-present

1999
The department identifies sustainability as a high priority and something it wants to be known for. Professor Brian Dunbar is hired to lead this program and continue in his role as Director of the Institute for the Built Environment.

Professor Dunbar develops and offers for the first time an off-site course, Sustainable Practices in Design and Construction, at the Maho Bay eco-resort in the U.S. Virgin Islands. The program attracts graduate students and construction professionals.

The department begins hosting the annual Rocky Mountain Asphalt Conference and Equipment Show.

2000
The curriculum is revised, and the course catalog includes a completely new description of the Construction Management major, which prepares graduates for a wide scope of diverse jobs in the $500-billion-a-year construction industry. The program focuses on integrating computers, innovative management systems, and other technologies into the construction process. Recently added is the Certified Professional Constructor exam provided through the American Institute of Constructors.

2001
A Master of Science in CM is developed and offered in the Denver area at night for working professionals.
In 2003, Department Head Larry Grosse coined the term “Ram Built,” which has since been adopted as the Construction Management program’s tagline and is used proudly both on- and off-campus to identify Construction Management-related projects and activities.

**Historical Snapshot**

“Things have changed over the years. In 1927, the department’s two programs were Industrial Arts – now known as Technology Education and Training – and Industrial Construction Management. We used to have 150 majors in tech ed. Today we probably have 20. At the same time, construction management majors have multiplied from about 60 to more than 600.”

*The late Professor James Parnell in a 2002 interview*

**2002**

- The Phelps Internship Placement Program is established, placing students in required construction industry internships. Three sustainable, LEED-certified classrooms, designed by students, are renovated and in use by fall semester.
- The department establishes 4 endowments: the Phelps Internship Placement Program, the Joseph Phelps Endowed Chair in Construction Management, the Phelps Construction Management Faculty Development Fund, and the MTCM-Industrial Associates Fund.
- The department offers two majors, Construction Management and Technology Education and Training.
- The ACCE and the National Council for Accreditation of Teacher Education and the International Technology Education Association visit the department and reaccredit the Construction Management program, citing the quality of its faculty, research activities, and high standards for learning.
- The department develops a glossy, 4-color magazine containing student, faculty, research, outreach, development, and industry news. The publication is produced and mailed annually to more than 4,000 alumni and friends.
- Scott Griffin is the first industry leader selected for the Joseph Phelps Endowed Chair in Construction Management.
A Colorado State/construction industry partnership results in the successful remodeling and restoration of the main hallway, staircases, and offices in Guggenheim Hall, using sustainable building practices and emulating many of the building’s original architectural elements.

The department establishes the James Parnell Student Professional Development fund, to honor the late faculty member.

Low enrollment and budget cuts lead to the phasing out of the Technology Education and Training program. All resources are funneled into the Construction Management program, which has 700 students enrolled.

Three new focus areas are developed for students pursuing a master’s degree in CM: construction management and information systems; historic preservation; and sustainable building. The new emphases focus on developing solutions to industry-wide problems.

The first continuing education certificate program in Construction Management begins in Denver; 45 students are enrolled.

Scott Shuler is hired from industry to create an emphasis in heavy construction management.

Dr. Larry Penley becomes CSU’s 13th president.

Department Head Larry Grosse establishes “Ram Built” as a tagline for the Construction Management program and its related projects and activities.

The department name is changed to the Department of Construction Management.

Construction Management’s first Ram Built Gala raises more than $30,000 for the James Parnell Student Development Fund.

The department forges a partnership with colleagues in Egypt, resulting in a Memorandum of Understanding between Colorado State and Helwan University.
Academic Year 2005-06

Annual tuition and fees: Resident, $8762; Non-resident, $15,724.

With a total of 866 students, the Construction Management program experiences a 19.5% enrollment increase, making it the third largest major on campus, second only to Psychology and Health and Exercise Science.

Industry members and Construction Management faculty work together to revitalize the curriculum to meet industry’s needs for the future, including proficiency in communication, pre-construction, and integration skills.

Faculty and students work together to renovate a second-floor classroom in the Industrial Sciences Building, using sustainable and historic preservation practices to convert the room into a new state-of-the-art computer laboratory.

2006

The department is composed of 1,071 undergraduate students including minors, 60 graduate students, four tenure-track faculty, 60 total faculty, staff, and student employees, and more than 3,400 living alumni.

In February, the department coordinates the Rocky Mountain Asphalt Conference and Equipment Show for the 8th consecutive year. Registration grows to over 1,400 attendees. The honorarium the CM department receives for coordinating the conference is funneled into a Heavy Construction Management Endowed Chair Initiative and a new asphalt laboratory.

In May, the department awards degrees to 205 graduating Construction Management students.

In September, department Head Larry Grosse cooks 225 pounds of fajita meat for the department’s annual welcome barbecue for all CM students.

A new, industry-supported Asphalt Laboratory for teaching and research opens. The Colorado Asphalt Pavement Association provides the funding and new lab equipment to create the only laboratory in Colorado dedicated to teaching asphalt technology. Over the summer, faculty and students work together to build the lab, and in November an open house is held to celebrate its completion.
With more than 916 students enrolled in 2006, Construction Management is the University’s third largest major and the country’s largest construction education program.

Four construction management professors have served as president of the Associated Schools of Construction: James Young, John Murphy, Larry Grosse, and Mostafa Khattab.

Each year, more than 250 companies nationwide come to Colorado State to interview Construction Management students for jobs, and virtually 100-percent of graduates are placed in industry jobs.

Colorado State has more than 3,400 Construction Management alumni, many of whom have become leaders in their field.

Four Construction Management graduates have been recognized with Colorado State awards: Joseph Phelps, Honorary Doctorate; Wayne Lindholm, Distinguished Alumni Award; and Jeff Christmann and Scott Anderson, both named Distinguished Graduate of the Last Decade.

In 2001, Construction Management student Brett Nolan received the Albert C. Yates Distinguished Service Award in recognition of his leadership, academic achievement, community service, and commitment to excellence.

In 1996 during Construction Management’s 50th anniversary celebration, Joseph Phelps, ’51, was named Outstanding Alumnus of the First 50 Years. In 2004, Colorado State University President Larry Penley awarded Phelps an Honorary Doctor of Humane Letters, the highest honor the University bestows.

In the late 1980s and early 1990s, CM students won the CSU Annual Homecoming Float Competition three years in a row, establishing a tradition of CM winning or placing in the event each year.

The Institute for the Built Environment is coordinating the LEED certification of Colorado State University’s new Transit Center.

Students in Professor Brian Dunbar’s Sustainable Technologies in the Built Environment course are contributing sustainable building ideas to the University’s new $45-million Academic Village, scheduled to open in 2007.

Colorado State’s Construction Management program has been home to numerous centers and institutes, including: National Center for Vehicle Emissions Control and Safety, 1976-2006; Rural Education Assistance Program, 1980s to present; Institute for the Built Environment, 1994-present; Architectural Preservation Institute, 1997-present; Interior West Center for the Innovative Use of Small Diameter Wood, 2001-2006.

In 1992, construction management students helped build the Vietnam Era Memorial Bridge, using bricks that survived from the burning of Old Main. The bridge spans Arthur Ditch, in the middle of the west lawn of the Lory Student Center. It was created to help heal the physical and emotional wounds brought about by the Vietnam war and bridge the gap between people of differing viewpoints.
Program Leaders and Their Visions

Dr. Andrew G. Clark
Instrumental in the decision to introduce Light Construction and Marketing program and the Industrial-Construction department at Colorado A&M College in 1946.

Dr. George F. Henry
Head of the Light Construction and Marketing program, 1946-1959 and professor and head of the Industrial Arts Department, 1923-1959.

Mr. Leslie L. Gibbons
Professor and Head of the Industrial Arts Department, 1959 to 1970. Helped to advance Light Construction and Marketing program even farther and more rapidly than its staunchest advocates had hoped.

Dr. James W. Young

Dr. William D. Hayes
Head of Industrial Sciences department, 1970-1984, and a strong spokesperson for the program. Made efforts to connect with the construction industry and helped raise awareness of the program both on and off campus.

Gary Gehrig
Program Coordinator of Light Construction and Marketing, Industrial-Construction Management and Construction Management, 1976 to 1996. Broadened exposure of the program nationally and internationally, strengthened the master’s program, and fostered greater industry involvement.

Dr. John Sutton
Professor and Head of Industrial Sciences department, 1985 to 1994. Continued Dr. Hayes’ efforts to connect with the industry and promote the program both on and off campus. Also instrumental in obtaining construction-related research and training grants.

Dr. Kevin Oltjenbruns
Interim Head of the Department of Manufacturing Technology and Construction Management, 1994-1996. Raised greater college and University awareness and support of the construction management program.

Dr. Larry Grosse
Professor and Head of the Department of Construction Management, 1996 to present. Engaged more industry representatives in the program, seeking their input into course content and sponsored research projects and their provision of internships and job opportunities for students and graduates. Initiated several fund-raising campaigns to provide sustained funding.

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The university-industry partnership that led to the development of Colorado State University’s construction education program 60 years ago, today is stronger and more vital than ever.

Enthusiastic involvement from industry has contributed to Colorado State’s Construction Management program becoming the largest and among the most highly regarded such programs in the nation.

This synergistic partnership has also helped elevate the CM program’s stature across campus. Recent renovations and restorations to Guggenheim Hall, made possible by the financial and in-kind support of many industry partners and individuals, have resulted in a more effective teaching environment for faculty and a better learning environment for students.

Guggenheim Hall has become a campus showpiece where President Penley frequently brings visitors. The CM program’s partnership with industry, which contributes to strengthening the program, is being used as a model for other departments on campus – as well as peer programs at other universities – to establish similar alliances.

Alumnus Joseph Phelps has been a pace-setter in stimulating construction businesses to financially commit to advancing construction education at Colorado State University. Mr. Phelps has created three endowments, supporting professional development for students, a chair in construction management, and professional development for faculty.

Additionally, he is responsible for establishing three named classrooms, which have led to other companies making sizeable contributions also to name classrooms.

More recently, Gerald H. Phipps and Haselden Construction have made lead gifts toward the renovation of the Industrial Sciences Building – a $3.2-million project that will be accomplished without state funds. The Colorado Asphalt Pavement Association has contributed cash and in-kind equipment totaling $200,000 to establish Colorado’s only heavy construction...
management program and an asphalt laboratory where faculty and students can test products and techniques that will lead to better roads and other infrastructures.

Connell Resources, the Colorado Contractors Association, Lafarge, TIC, and Wagner Equipment Company also have made major gifts to support building projects, curriculum enhancements, and endowments. The department is indebted as well to many other companies and individuals who also make financial and in-kind contributions and provide internship opportunities for Construction Management students and full-time employment for graduates. These indispensable partners also lend valuable support and recommendations aimed at improving the CM program.

Ram-Built Pride

To demonstrate pride in the construction industry, and to communicate to students and visitors the importance of this partnership, the Construction Management program has established:

• A hard hat display, mounted within CM’s hallways, to show the 250-plus companies that actively recruit CM students;
• Promotional panels, installed in CM classrooms, which illustrate the kinds of projects different construction companies work on; and
• The Wall of Honor, a framed display of business cards, showing where Colorado State’s CM graduates are working.

Honoring Construction Management Supporters

Since 2004 the department has given a Ram Built Hard Hat Award to construction industry leaders and members of the University community who support construction education. Award recipients are:

• 2004: Alumnus Joseph Phelps, founder and CEO of Phelps Vineyards; and Nancy Hartley, dean of the College of Applied Human Sciences;
• 2005: Ben Connell, founder and CEO of Connell Resources, and Kevin Oltjenbruns, interim head of the construction management department;
• 2006: Bruce Ferguson, CEO of Gerald Phipps, Inc.; and Sue Wagner-Renner, financial manager of the construction management department.

Student Excellence

The performance of Colorado State’s Construction Management students in regional and national competitions demonstrates the quality of the education they’re receiving. In recent years, Colorado State’s CM students have achieved high honors in numerous competitions, among them:

• 2002 ASC regional and national competitions, 1st, 2nd and 3rd place awards;
• 2003 ASC regional and national competitions, 5 CSU teams won 1st, 2nd, or 3rd place awards;
• 2003 ABC national competition, 1st place awards overall and in estimating; 3rd place awards in...
safety and project administration;
- 2004 ASC regional competition, 1st and 2nd place awards;
- 2004 ABC competition: 1st place overall
- 2005 ASC regional and ASC/AGC national competition: 1st and 2nd place awards;
- 2005 MCAA national competition: 2nd place award;
- 2005 NAHB national competition: 3rd place award;
- 2006 ASC regional competition: 1st, 2nd, and 3rd place awards;
- 2006: CM’s student chapter of the Associated Building Contractors received the national outstanding Student Chapter Award for Excellence.

The NAHB National Outstanding Student Chapter Award
- CSU received the following awards: 1st Place in 1996-97, 3rd Place in 1997-98, 3rd Place in 1998-99, 1st Place in 1999-2000

From Left to right: Trevor Fink, Brandon Bergholz, Mary Jill Turner, David Sandlin, Justin Martin, and Joel Pennick (not pictured), who won in the National ASC-AGC Student Competition.

CM Alumni from the Southern California area attend a reception in the home of Wayne Lindholm prior to the 2005 Poinsettia Bowl.

Department Head Larry Grosse cooking fajitas for the annual Fajita Fest.

1970 Construction Management students.
CM at a Glance

"The future of construction education relies on the relationship of our program with our industry. As a leading educator, we will continue to provide the future leadership of our industry."

Larry Grosse, department head, 1996-present