



Program

BS in Concrete Industry Management

This multidisciplinary degree program prepares men and women for a wide variety of professional careers in the concrete industry, which has a growing need for technical managers. Concrete materials and products are the foundation of the 931 billion dollar construction industry—one of the primary drivers of the U.S. economy.

This program, the only one of its kind in California, was created with the financial support of concrete industry executives, who are eager to employ its interns and graduates.

Concrete Industry Management (CIMT) is founded on a strong lower-division base of general education, math, science, and business courses. The upper-division class and laboratory work allows students to develop the necessary technical knowledge in concrete materials and processes. At the same time, courses in logistics and information systems, finance, marketing, law, safety, quality, and project management prepare students to become effective leaders in the concrete industry.

Students who complete the CIMT program curriculum will also have fulfilled all the course requirements for a Minor in Business Administration.

Career Outlook

Concrete products, equipment, and services represent a 130 billion dollar segment of the national economy, with over 2 million employees. This professional degree program addresses an identified need for more than 2,000 new technical managers each year within that wide segment. Therefore, career opportunities for graduates of the CIMT program are excellent.

Examples of entry-level positions available immediately upon graduation include:

- production manager of a concrete block, ready-mixed, pre-cast/pre-stressed, or pipe plant;
- concrete specialist in an engineering, architectural, or construction firm;

- marketing or technical sales representative for concrete equipment and services, and;
- product distribution manager.

Industrial Support

This new degree program is truly a joint initiative between industry and academia. Concrete companies and professional organizations are active, on-going partners. Industry supplies CIMT students and faculty with advice, feedback, monetary donations, scholarships, equipment, supplies, training, and funded research.

Student Organizations

The CIMT program faculty support and encourage students' participation in our own student chapter of the American Concrete Institute (ACI). Through active membership in campus chapters of professional organizations, students develop and practice technical, social, and leadership skills. Many of these organizations sponsor guest speakers, field trips, conferences, trade expositions, and social events. Some groups also compete and excel in regional and national intercollegiate competitions.

Upcoming meetings, current events, special workshops, jobs, and contacts are posted on the CIMT program's website at <http://www.csuchico.edu/cim/>.

Internships

All students in the CIMT program gain valuable professional experience and knowledge as interns in local or national concrete-related companies. Most internship opportunities in this field are full-time, summer and/or semester-long positions, where students earn salaries of \$2,000 to \$3,000 per month, as well as upper-division course credit.

Scholarships

In addition to university-wide and college-based scholarships, the concrete industry provides separate funds for scholarships in this program. Eligibility for these CIMT-specific scholarships is based on academic performance, improvement, leadership potential, and/or financial need.

Concrete Industry Management

College of Engineering, Computer Science, and Construction Management
Dean: Michael Ward

Concrete Industry Management

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Concrete Industry Management

Student success is the primary goal of the concrete industry management faculty. Upon completion of this program, graduates will have the knowledge, skill, and ability to manage facilities, equipment, materials, processes, technology, information, and people.

Concrete Industry Management Program Goals

Student success in this program is best described by the following attributes of its graduates:

1. First and foremost, CSU, Chico concrete industry management graduates understand how concrete materials and products are produced, used, and tested.
2. They have a thorough understanding of contemporary concrete blending, mixing, transport, placement, and finishing processes.
3. They understand the fundamental behavior of materials and have experience testing material properties.
4. They understand project, quality, and safety management methods and the impact of their application on the financial and economic aspects of concrete materials, products, and services.
5. They use contemporary computer applications, information systems, and software packages.
6. They effectively communicate their ideas in oral, written, and graphical form.
7. They have experience working in teams.
8. They have developed an appreciation for the legal and ethical implications of their work and are aware of the impact of their actions on individuals, society, and the environment.

The Bachelor of Science in Concrete Industry Management

Total Course Requirements for the Bachelor's Degree: 120 units

See "Requirements for the Bachelor's Degree" in the *University Catalog* for complete details on general degree requirements. A minimum of 40 units, including those required for the major, must be upper division.

A suggested Major Academic Plan (MAP) has been prepared to help students meet all graduation requirements within four years. Please request a plan from your major advisor or view it and other current advising information at <http://em.csuchico.edu/aap/ProgramSearch>.

General Education Requirements

Concrete Industry Management major requirements have modifications to the University's General Education requirements. The following courses, together with the approved General Education courses for the concrete industry management major (marked with an * below), fulfill the General Education Requirement.

1. Select one course each from Breadth Areas A1, A2, and A3.
2. Select one course from Breadth Area B2.
3. Select two courses from Breadth Area C.
4. Select one course from Breadth Area E.
5. Select two courses from the same Upper-Division Theme. Consult with an advisor to determine which two courses in the selected theme meet the Upper-Division Theme Requirement for Concrete Industry Management majors.

Diversity Requirement: 6 units

See "Diversity" in the *University Catalog*. Most courses taken to satisfy these requirements may also apply to General Education Areas C and D.

U.S. History, Constitution, and American Ideals Requirement: 6 units

See "U.S. History, Constitution, and American Ideals Requirement" under "Bachelor's Degree Requirements." This requirement is normally fulfilled by completing HIST 130 and POLS 155. For this major, HIST 130 may also be applied to General Education Breadth Area C1, C2, or C3, and POLS 155 may also be applied to General Education Breadth Area D1, D2, or D3.

Literacy Requirement:

See "Mathematics and Writing Requirements" in the *University Catalog*. Writing proficiency in the major is a graduation requirement and may be demonstrated through satisfactory completion of a course in your major which has been designated as the Writing Proficiency (WP) course for the semester in which you take the course. Students who earn below a C- are required to repeat the course and earn a C- or better to receive WP credit. See the Class Schedule for the designated WP courses for each semester. You must pass ENGL 130 (or its equivalent) with a C- or better before you may register for a WP course.

Course Requirements for the Major: 87 units

Completion of the following courses, or their approved transfer equivalents, are required of all candidates for this degree.

Lower-Division Requirements: 30 units

10 courses required:

CHEM 107	Gen Chem for Applied Sciences	4.0	FS *
Prerequisites: Intermediate Algebra.			
CIMT 101	Introduction to Concrete	2.0	FA
CIMT 231	Fund of Concrete Prop & Test	3.0	FA
Prerequisites: CIMT 101, CHEM 107, MATH 105, PHYS 202A.			
CIMT 241	Concrete Construction Methods	3.0	SP
Prerequisites: CIMT 231, CIVL 110.			
CIVL 110	Graphics for Civil Engineers	2.0	FS
Prerequisites: High school trigonometry and algebra.			
ECON 102	Principles of Macro Analysis	3.0	FS *
GEOS 102	Physical Geology	3.0	FS *
Prerequisites: High school chemistry or physics is recommended; students with no previous science courses are advised to enroll in GEOS 101. No college credit for those who have passed GEOS 101.			
MATH 105	Statistics	3.0	FS *
Prerequisites: Completion of ELM requirement.			
MATH 118	Trigonometry	3.0	FS *
Prerequisites: Completion of ELM requirement.			
PHYS 202A	General Physics	4.0	FS *
Prerequisites: High school physics or faculty permission. High school trigonometry and second-year high school algebra or equivalent (MATH 051 and MATH 118 at CSU, Chico).			

Upper-Division Requirements: 33 units

9 courses required:

CIMT 348	Concrete Repair & Restoration	3.0	FA
Prerequisites: CIMT 241, GEOS 102.			
CIMT 363	Sustainability & Built Environ	3.0	SP
CIMT 389	Concrete Industry Internship	3.0	FS
Prerequisites: MFGT 352 and approval of faculty internship coordinator prior to off-campus assignment.			
CIMT 444	Laboratory Assistant	2.0	FS
Prerequisites: Senior standing, faculty approval.			
CIMT 453	Concrete Facilities Mgmt	3.0	FA
Prerequisites: SCMS 306.			
CIMT 466	Concrete Capstone Project	3.0	SP
Prerequisites: CIMT 348, CIMT 453.			
MFGT 352	Industrial Safety Management	4.0	SP WP
Prerequisites: ENGL 130 (or its equivalent) with a grade of C- or higher, junior standing.			
MFGT 458	Project Management	3.0	FA
Prerequisites: Senior standing.			
SCMS 306	Operations Management	3.0	FS
Prerequisites: Business Administration or Business Information Systems status required for business majors. Completion of General Education Breadth Area A4 requirements required for all majors.			

1 course selected from:

MFGT 451	Quality Management	3.0	SP
Prerequisites: SCMS 306 or faculty permission. This course is also offered as SCMS 451.			
SCMS 451	Quality Management	3.0	SP
Prerequisites: SCMS 306 or faculty permission. This course is also offered as MFGT 451.			

1 course selected from:

CIMT 364	Decorative Fixtures & Surfaces	3.0	SP
Prerequisites: CIMT 101 or faculty permission.			
CIMT 366	Seismic Consider. in Concrete	3.0	Inq
CMGT 330	Principles Soil Mech/Found	3.0	FS
Prerequisites: CHEM 107, PHYS 202A. We recommend CMGT 135 as appropriate background.			

Formal Business Administration Minor Requirement: 24 units

Concrete Industry Management majors are required to complete a formal Minor in Business Administration. The College of Business requires the following courses, or their approved transfer equivalents, of all candidates for this minor.

8 courses required:

ACCT 201	Intro to Financial Accounting	3.0	FS
ACCT 202	Intro to Managerial Accounting	3.0	FS
Prerequisites: ACCT 201 (or ABUS 261 for ABUS majors only).			
BLAW 302	Managing the Legal Environment	3.0	FS
Prerequisites: At least junior standing.			
ECON 103	Principles of Micro Analysis	3.0	FS *
FINA 307	Survey of Finance	3.0	FS
Prerequisites: ACCT 201, ECON 103.			

MGMT	303	Survey of Management	3.0	FS
MKTG	305	Survey of Marketing	3.0	FS
MINS	301	Corporate Tech Integration	3.0	FS

Grading Requirement:

All courses taken to fulfill major course requirements must be taken for a letter grade except those courses specified by the department as Credit/No Credit grading only.

Advising Requirement:

Advising is mandatory for all majors in this degree program. Consult your undergraduate advisor for specific information.

The Faculty

- Leslie Anderson-Mills**, 2008, Lecturer, MS, CSU Chico.
 - Russell Gary Hicks**, 2006, Research Professor, PE, PhD, UC Berkeley.
 - Tanya Komar**, 2005, Assist Professor, PhD, Texas A&M U.
 - Charles J. Roberts**, 2008, Lecturer, MS, PE, CSU Chico.
 - Mary Stroup-Gardiner**, 2008, Research Professor, PE, PhD, U Minnesota.
- PE designates Registered Professional Engineer

Concrete Industry Management Course Offerings

Please see the section on "Course Description Symbols and Terms" in the University Catalog for an explanation of course description terminology and symbols, the course numbering system, and course credit units. All courses are lecture and discussion and employ letter grading unless otherwise stated. Some prerequisites may be waived with faculty permission. Many syllabi are available on the Chico Web.

CIMT 101 Introduction to Concrete 2.0 Fall

An overview of the history, career opportunities, job functions, and professional organizations in the concrete industry. Students are introduced to the Concrete Industry Management curriculum, its instructional expectations and methodologies. Special fee required; see the Class Schedule. (020294)

CIMT 198 Special Topics 1.0-3.0 Inquire

Prerequisites: To be established when course is formulated. Special topics are generally offered one time only. Different sections may have different topics. See the Class Schedule for specific topics being offered. A maximum of 6.0 units of special topics may be counted toward the major. (020296)

CIMT 231 Fundamentals of Concrete Properties and Testing 3.0 Fall

Prerequisites: CIMT 101, CHEM 107, MATH 105, PHYS 202A. Effects of concrete-making materials (aggregates, cements, admixtures, etc.) on the properties of fresh and hardened concrete. Concrete mixture proportioning calculations and statistical analysis of strength tests are also studied. 2.0 hours discussion, 3.0 hours laboratory. (020297)

CIMT 241 Concrete Construction Methods 3.0 Spring

Prerequisites: CIMT 231, CIVL 110. Forming, shoring, placing, and reinforcing operations. Transporting, placing, consolidating, finishing, jointing, and curing concrete for cast-in-place foundations, pavements, on-ground slabs, structural frames, and other structural members are studied. Other topics include waterproofing concrete foundations and erecting precast concrete members. 2.0 hours discussion, 3.0 hours laboratory. (020298)

CIMT 298 Special Topics 1.0-3.0 Inquire

Prerequisites: To be established when course is formulated. Special topics are generally offered one time only. Different sections may have different topics. See the Class Schedule for specific topics being offered. A maximum of 6.0 units of special topics may be counted toward the major. (020299)

CIMT 348 Concrete Repair and Restoration 3.0 Fall

Prerequisites: CIMT 241, GEOS 102. This course provides an understanding of historic concrete building practices leading to informed evaluation and repair of older structures for reuse. The causes of service failures, including material failure, improper design, maintenance failure, and environmental effects are studied. The presentation of case studies in failure analysis and repair approaches occur throughout the course, along with participation in ongoing, long-term studies of repair systems. 2.0 hours discussion, 3.0 hours laboratory. (020300)

CIMT 363 Sustainability and the Built Environment: The Role of Concrete 3.0 Spring

An introduction to the fundamental concepts of sustainability. Special emphasis is placed on understanding the interaction of the built environment with natural systems, and the role of technical and non-technical (economic, ecological, ethical) issues in shaping engineering decisions. Issues such as green buildings/developments, renewable energies, and concrete's role in helping to meet LEED certification are discussed. This course is open to engineers and non-engineers interested in all aspects of the built environment. (020301)

CIMT 364 Decorative Concrete Fixtures and Surfaces 3.0 Spring

Prerequisites: CIMT 101 or faculty permission. This course includes the design, development, and on-site manufacture of specialty fixtures, using concrete-based mixtures. Concrete surface treatments, such as staining, texturing, imprinting, skim coats, overlays, and engraving are also addressed. 2.0 hours discussion, 3.0 hours laboratory. (020302)

CIMT 366 Seismic Considerations in Concrete 3.0 Inquire

A study of the seismic implications of various types of concrete installations, earthquake failure mechanisms, and methods to prevent catastrophic failure. Material and structural innovations to improve seismic response of various installations. (020303)

CIMT 389 Concrete Industry Internship 3.0 Fa/Spr

Prerequisites: MFGT 352 and approval of faculty internship coordinator prior to off-campus assignment. Technical and managerial experience in an industrial setting with opportunities to apply course work to professional practice. Students are evaluated by their supervisor, and a final report must be submitted by each student detailing the internship experience. The minimum duration is 400 hours under the direct supervision of an on-site manager in a concrete-related company. Credit/no credit grading only. (020305)

CIMT 399 Special Problems 1.0-3.0 Inquire

Prerequisites: Approval of supervising faculty member. Independent study of a special problem. Visit the program office for the registration procedure. 9.0 hours supervision. You may take this course more than once for a maximum of 6.0 units. Credit/no credit grading only. (020306)

CIMT 444 Laboratory Assistant 2.0 Fa/Spr

Prerequisites: Senior standing, faculty approval. Provides students an opportunity to practice laboratory skills acquired in previous course work and to assist an instructor with hands-on instruction and industry standard testing procedures. You may take this course more than once for a maximum of 2.0 units. Credit/no credit grading only. (020307)

CIMT 453 Concrete Facilities Management 3.0 Fall

Prerequisites: SCMS 306. Management of the manufacturing processes common to all concrete product production facilities. Emphasis is on planning, organizing, and controlling production. A study of the differences in the manufacturing process of ready-mixed concrete, concrete masonry, pre-cast concrete, pre-stressed concrete, and concrete pipe is explained through product-specific guest lectures and plant tours. (020309)

CIMT 466 Concrete Capstone Project 3.0 Spring

Prerequisites: CIMT 348, CIMT 453. An intensive study of a problem(s) appropriate to the major and the student's career interests, requiring knowledge from previous technical and business course work. Solutions to the problem(s) are presented to a committee of concrete industry representatives. Presentation must emphasize depth of analysis, completeness and effectiveness of solutions, and presentation skills. 1.0 hours discussion, 6.0 hours laboratory. (020310)

CIMT 498 Special Topics 1.0-3.0 Inquire

Prerequisites: To be established when course is formulated. Special topic generally offered one time only. Different sections may have different topics. See the Class Schedule for specific topics being offered. This course is normally taught by professionals from the field. (020311)

CIMT 499 Special Problems 1.0-3.0 Inquire

Prerequisites: Approval of supervising faculty member. Independent study of a special problem. Visit the program office for registration procedures. You may take this course more than once for a maximum of 6.0 units. Credit/no credit grading only. (020312)

CIMT 598 Advanced Topics 1.0-3.0 Inquire

Prerequisites: To be established when course is formulated. This course is for advanced special topics offered for 1.0-3.0 units. typically a topic is offered on a one-time-only basis and topics vary from term to term and section to section. See the Class Schedule for the specific topics being offered. This class may be repeated more than once, but a maximum of 6 units may be counted toward the major. (020313)