

COLLEGE OF
BUILT
ENVIRONMENTS

Department of Construction Management

STUDENT HANDBOOK

2015-2016 Academic Year



Updated: November 23, 2015

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I. INTRODUCTION

The construction industry requires highly qualified professionals to manage its increasingly complex technical and management operations. The Department of Construction Management offers rigorous, high-quality education to meet this demand. Graduates of the program can find entry-level management or supervisory positions throughout the country with private construction firms (general and specialty contractors), public agencies, homebuilders, consulting firms, real estate developers, and construction material suppliers.

A. HISTORY

The Department of Construction Management at the University of Washington is one of four departments within the College of Built Environments (CBE). The Department had its beginning during the 1950's when students created their own individual programs from existing university courses. Students pursuing these studies were awarded BA degrees from the College of Arts and Sciences.

In October 1962, a decision was made to discontinue the BA degree option within Arts and Sciences, and to replace it with a similar program within the College. In May 1963, the Board of Regents approved the curriculum and created a program titled Building Technology and Administration (BT&A).

The first course (Construction Materials) was offered to 31 students during the winter quarter in 1964. This date constituted the formal beginning of a curriculum that evolved over the years into the current Construction Management program. The first six graduates were granted BS degrees in June 1965. The Board of Regents created the present Department in August 1968, and on July 1, 1996 the name was officially changed to the Department of Construction Management. Student enrollment grew from 21 students during the 1963-64 academic year to a high of 119 students in 1968-69. Over the past 10 years, enrollment has remained steady

between 80 and 100 students. Currently about 55 students graduate with BS degrees, a number that is expected to grow to 70 within a few years. There are more than 1,800 CM alumni who hold responsible positions in the construction industry.



The Department is administered by a chair and an administrative staff. The Chair reports to and serves as an appointee of the Dean who in turn is responsible, through the Provost, to the President of the University.

The Department is a member of the Associated Schools of Construction (ASC), and the undergraduate program is nationally accredited by the American Council for Construction Education (ACCE).

B. MISSION STATEMENT

To prepare individuals for careers in the construction and related industries by providing high quality education, to conduct research that will benefit the construction industry, and to provide service to the community.

To accomplish its mission, the Department strives to:

- Provide accessible, challenging, quality, and contemporary educational programs that prepare individuals to assume technical and managerial positions in the construction and related industries.
- Provide a diversified, accredited, undergraduate curriculum.
- Provide experiential learning opportunities for students.
- Explore interdisciplinary opportunities for students.
- Conduct high-quality research that pushes the boundaries in construction technology and management and improves construction processes.
- Engage in interdisciplinary research activities.
- Recruit more full-time graduate students to support department research activities.
- Further develop CERC (Center for Education & Research in Construction).
- Cultivate close relationships with the construction and related industries.
- Conduct service projects that benefit the community.
- Strengthen the bond between the department and its alumni.
- Promote professional development of the faculty.
- Increase undergraduate enrollment without degrading the quality of students admitted.
- Increase department endowment funding.
- Improve department visibility.

C. DEPARTMENT FACULTY

The Department's faculty consists of a mix of permanent full-time professors and part-time lecturers. The full-time faculty members have prior construction industry experience. The part-time lecturers are mostly industry practitioners and include general contractors, specialty contractors, architects, engineers, attorneys and others.

The following is a list of biographical information of the faculty and lecturers of the Department of Construction Management. The information includes the areas of interest for each faculty member.

FULL-TIME FACULTY

1. Ahmed Abdel-Aziz, Associate Professor of Construction Management, Ph.D. in Civil Engineering, The University of British Columbia, Canada. Estimating, Project Controls, Heavy Construction, Privatized Infrastructure, Quantitative Risk Analysis, Probabilistic Estimating and Simulation.
E-mail: amaziz@uw.edu
2. William Bender. Professor and Chair of Construction Management, Ph.D in Civil Engineering, University of Maryland, Sustainability, Project Management, and Risk Analysis,
Email: wbender@uw.edu
3. Saeed Daniali, Professor of Construction Management, Ph.D. in Structural Engineering, University of Sciences and Technologies of Lille, France. Structural Analysis and Design, Soil Mechanics, Construction Materials.
E-mail: sdaniali@uw.edu
4. Carrie Dossick, Associate Professor of Construction Management, Ph.D. in Civil Engineering and Construction Management, Columbia University. Construction Materials and Methods, Construction Modeling, and Project Management.
E-mail: cdossick@uw.edu
5. Len Holm, Lecturer, M.S. in Construction Management, University of Washington, Real Estate, Estimating, Project Management.
E-mail: lholm@uw.edu

6. Yong-Woo Kim, Associate Professor of Construction Management, Ph.D. in Civil Engineering, University of California at Berkeley, Lean Project Delivery Systems, Sustainable Construction, Project Cost Management, Construction Accounting.
E-mail: yongkim@uw.edu
7. Chris Lee,
8. Ken-Yu Lin, Assistant Professor of Construction Management, Ph.D. in Civil Engineering from the University of Illinois at Urbana-Champaign, Information & knowledge mgmt. for project sustainability & construction education
E-mail: kenyulin@uw.edu
9. Giovanni Migliaccio, Assistant Professor of Construction Management, Ph.D. in Civil Engineering from the University of Texas, Construction Methods and Materials, Innovative Project Delivery Methods, Sustainable Management of the Built Environment, Project Management
E-mail: gianciro@uw.edu
10. Kamran Nemati, Associate Professor of Construction Management and Adjunct Associate Professor of Civil and Envir. Engineering, M.C.P. and Ph.D. in Civil Engineering, University of California at Berkeley, Structural Materials, Const. Engr., Geotechnical Engr., Envir. Engr., Transportation Planning, and Concrete Technology.
E-mail: nemati@uw.edu
11. John E. Schaufelberger, Professor and Dean of the College of Built Environments, Ph.D. in Civil Engineering, University of Illinois at Urbana, Project Management, Managing International Projects, Construction Equipment Management, Construction Firm Management, and Construction Procurement Systems.
E-mail: jesbcon@uw.edu
2. Kaveh Aminian, M.S. in Civil Engineering, University of Washington, Building Codes, Environmental Regulation
E-mail: aminiank@uw.edu
3. Maria Boyer, B.A. in Education, University of Puget Sound, Mechanical Construction
E-mail: mboyer@umci.com
4. David Conley,
5. David Jacobson, M.S. in Construction Management, Univ. of Washington, Surveying.
E-mail: jacobsondave@hotmail.com
6. Brian Jones, B.S. in Construction Management, University of Washington, Electrical Construction
E-mail: BrianJ@velectric.com
7. Ed Kommers, B.S. in Mechanical Engineering, Montana State University, Labor Relations
E-mail: ekommers@comcast.net
8. Lezlie Lang, B.A. in Chemistry, University of Washington, Electrical Construction
E-mail: Bednar@veca.com
9. Karin Nyrop, B.A Criminal Justice, Saint Martin's University 1981; J.D. Seattle University (1984); Construction Law
E-mail: Nyrop.karin@gmail.com
10. Jeff Ottesen, BS Civil Eng from Brigham Young University 1991, MS Civil Eng from Texas A&M University 1993, Construction documents and onstruction contract law
E-mail: jottesen@altascascade.com
11. Pamela Rose, Master of Architecture, 1991, University of Washington; Construction Management 301
E-mail: pjr24@u.washington.edu
12. Darlene Septelka, A.A.S in Civil/Structural Technology, Blue Hills Technical Institute, B.S. in Building Construction and M.S. in Construction Management, University of Washington, Design-Build Management
E-mail: darlenes@landoncg.com
13. James Shaiman, M.S. in Construction Management, University of Washington, Construction Practice
E-mail: james@shaiman.net

PART-TIME LECTURERS

1. Barry Aaronson, Master of Architecture University of Washington, methods and materials
E-mail: barrya2@uw.edu

14. Alan Thunder, B.S. in Building Construction, University of Washington and MS Business/Finance, Seattle University, Construction Materials and Methods.
E-mail: allan_thunder@marxokubo.com
15. Athan Tramountanas, B.S. in Construction Management, University of Washington, and J.D., Seattle University, Construction Law
E-mail: athan@uw.edu
16. Cherie Tucker, Bachelor of Art in English University of Washington, construction communications
E-mail: grammarworks@msn.com

D. DEGREE PROGRAMS

The Department currently offers four-degree programs. The following are brief descriptions of these programs.

1. Bachelor of Science in Construction Management Program

This is a four-year professional program, which prepares students for entry-level supervisory or managerial positions in the construction and related industries. Students complete a minimum of 88 credits of required coursework at the University of Washington or another institution during their first two years of study. Admission to the program is competitive and occurs at the end of the student's second year of study. The final two years of study follow the curriculum that is discussed later in this Handbook.

2. Concurrent Bachelor of Science in Construction Management and Bachelor of Arts (Architectural Studies) Program

This is a five-year dual degree program to provide students education in both the design and construction disciplines. Students must consult an advisor and in successive years apply to both the Departments of Architecture and Construction Management at the end of their second and third year of study to gain entry into the program. The curriculum is a blending of the Architecture and Construction Management programs as outlined on the next page.

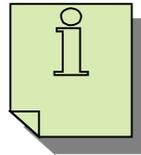
3. Master of Science in Construction Management Program

This is an evening degree graduate program that has been structured to meet the educational needs of working professionals in the construction industry. The purpose of the program is to prepare students for middle and upper-level management positions in the construction industry. Admission is competitive, and students are admitted in the Autumn, Winter, and Spring quarters. To graduate with a Master of Science in Construction Management degree, students must complete a minimum of 45 credits of coursework beyond an undergraduate degree and a thesis or a report/project. Students interested in pursuing a graduate degree should consult the Graduate Program Coordinator at the appropriate time.

4. Distance Learning Master of Science in Construction Management Program

This is a distance learning graduate program focused on the heavy construction industry. Admission is competitive and students are admitted each quarter. To graduate with a Master of Science in Construction Management, students must

complete 45 credits of coursework beyond an undergraduate degree and a graduate research report. Students interested in this program should consult the Graduate Program Coordinator.



The Architecture Academic Adviser is Kim Sawada 206-685-7236
ksawada@u.washington.edu

CM/ARCH Dual-Degree Curriculum:

Dual Degree (2014-2016)					
YR4	Autumn 2014		Winter 2015		Spring 2015
6	ARCH 400 Arch Design IV	6	ARCH 404 Integrated AEC studio	6	ARCH 402 Design VI
3	CM 310 Intro to Bldg Const.	3	CM 321 Mechanical Systems	4	CM 331 Const Estimating I
2	CM 311 Const Documents	3	CM 322 Electrical Systems	3	CM 332 Const Equipment
3	CM 312 Const Accounting	3	CM 432 Soils & Foundations	2	CM 334 Const Surveying
3	<i>ARCH Graphics Selective</i>				
18	Total credits	15	Total credits	15	Total credits
Summer Internship - Required					
YR5	Autumn 2015		Winter 2016		Spring 2016
3	CM 333 Construction Safety	3	CM 421 Project Mgmt I	3	<i>ARCH History Theory Selective</i>
5	CM 410 Const Estimating II	2	CM 422 Computer App in Const	3	CM 412(W) Business Practice
3	CM 411 Project Planning	3	CM 433 Const Labor Relations	3	CM 423 Construction Law
4	CM 301 or BCMU 301	4	<i>MGMT 300</i>	5	CM 431 Project Mgmt II (Capstone)
		3	<i>CM (C/CS) Elective (CM498 recommended)</i>		
18	Total credits	12	Total credits	14	Total credits

E. CONSTRUCTION INDUSTRY SUPPORT

Construction Industry Advisory Council

The Department enjoys tremendous support from the local construction industry which provides part-time employment opportunities to students during the school year, internship opportunities during the summer after the junior year, opportunities for field trips, part-time and guest lecturers as needed in the various courses, as well as financial support.

In addition to the above, the Department has also established a Construction Industry Advisory Council. The Council was established in October 1991, in order to maintain a continuing relationship with industry. The vision of the Construction Industry Advisory Council is to serve as a bridge between the construction industry and the University in order to create interdependent relationships that can facilitate the common goal of serving the construction and related industries.

The Council is comprised of professionals who represent all facets of the construction industry. The Council exists to facilitate the needs of the College of Built Environments, students of the Department of Construction Management, and industry. The major objectives of the Council are to:

- Be the voice of the industry (customer) for the College
- Advocate for the wants and needs of students in the Department of Construction Management in order to produce outstanding graduates who can be effective and productive members of the construction industry
- Support the needs of the Department of Construction Management, its faculty, staff and students
- Advise the Department Chairman on curriculum and faculty matters in order to ensure that students receive the best possible education
- Provide opportunities for summer internships to students as part of their education

- Support continuing education for the construction industry and
- Establish interdependent relationships with other professionals represented in the College

The Council consists of 25 members who represent the major trade and professional construction associations, the insurance and legal professions, and construction material suppliers.

The Council has 2 officers: a chairperson and a vice chairperson/treasurer. The vice chairperson/ treasurer serves for 2 years and then becomes chairperson for 2 years. The Council meets four times each year. Membership is by invitation and members serve for 3 years. Associations represented include: The Associated General Contractors (AGC); Associated Builders and Contractors (ABC); Mechanical Contractors Association (MCA); Utility Contractors Association (UCA); National Electrical Contractors Association (NECA); and National Association of Home Builders (Master Builders Association).

The Dean of the College of Built Environments, the Chairman and all the faculty of the Department of Construction Management participate in Council meetings.



II. STUDENT ACTIVITIES

A. STUDENT ORGANIZATIONS

The following is a list of organizations in which Construction Management students may participate:

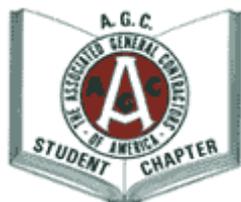
1. Student Chapter, Associated Builders and Contractors (ABC)



ABC of Washington represents more than 400 general contractors, subcontractors, suppliers and industry professionals, both union and open shop, who are united in the belief that a project should be awarded to the lowest responsible bidder, or owner's contractor of choice, regardless of labor affiliation; that union and open shop workers should be able to work side-by-side to provide the best project for the owner; and that workers should have the choice of whether they wish to join a union or not, and they should be rewarded on the basis of their individual skill and initiative. A merit shop project provides the best value to the construction owner. This is ABC's Merit Shop philosophy. The ABC-UW Student Chapter allows for students to network with ABC member contractors. Activities include an annual trade show, auction, golf tournament and production of a twice-annual student resume book distributed to ABC member-contractors. The student chapter was founded in 2004.

2. Student Chapter, Associated General Contractors (AGC)

The University of Washington Student Chapter of the AGC received its charter in 1971. Each year the Student Members determine the career, educational, and social activities they would like to sponsor throughout the year. In becoming a member of ASIC,



student will have access to the resources of the AGC, the largest national organization of contractors. The AGC provides educational resources to industry through the Education Foundation and AGC-organized events. Participation in any AGC event or educational activity makes students more marketable and brings students in contact with industry members. Interested students should contact the AGC Student Representative.

3. Association of Students in Construction (ASIC)

ASIC is an umbrella organization for Construction Management undergraduate students and Construction Management graduate students. The mission of ASIC is "to integrate students into the professional construction industry." The association has the following officers: President, Vice President/Secretary, Treasurer, Associated General Contractors (AGC) representative, National Association of Home Builders (NAHB) representative, Mechanical Contractors Association (MCA) representative, Associated Builders and Contractors (ABC) representative and American Concrete Institute (ACI) representative. Elections are conducted at the end of the Winter quarter for the Junior class. The term of office is for one year starting in the Spring quarter.

To become a member of ASIC, students must pay an annual fee of \$55.00. This is good for one calendar year. Dues are due in the Autumn quarter, and membership will expire in the succeeding Autumn quarter. The members of ASIC will receive membership and the special privileges of the four professional organizations (AGC, NAHB, ACI, and MCAA), personal business cards (500), and entry into the Student Resume Book. All of this will equip the student with the necessary tools to enter the professional construction industry from the university.

4. Student Chapter, American Concrete Institute (ACI)

The ACI student chapter is jointly sponsored with the Department of Civil and



Environmental Engineering. Members participate in monthly dinner meetings of the Washington Chapter and participate in field trips.

5. Student Chapter, Mechanical Contractors Association of America (MCAA)

The MCAA is a nationwide organization representing 1800 companies in the area of commercial/nonresidential specialty construction who generate \$1.5 billion in yearly revenues.

The student chapter offers many opportunities to enhance learning and networking with industry leaders. Chapter members are eligible for scholarships (including travel to national conventions), and may attend local contractor luncheons and educational programs.

In addition, the local affiliate organization, MCA of Western Washington, hosts students on job site and operations tours, coordinates student internships, sponsors UW alumni events, offers fundraising opportunities for student activities, and contributes toward university equipment and facilities.

6. Sigma Lambda Chi (SLC)

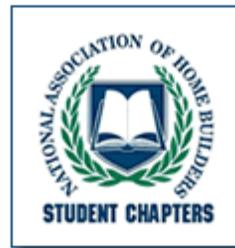
Sigma Lambda Chi is a national construction honor society for



recognition of outstanding students majoring in Construction Management. Membership in the society is an honor offered through invitation only to students who are in the top twentieth percentile of their class. Inductees are selected based on outstanding scholarship, leadership, and character, regardless of

gender, race, color, or creed. Each year Sigma Lambda Chi sets goals for community activities, which offer benefits to the community. These qualities have earned Sigma Lambda Chi membership in The Association of College Honor Societies (ACHS), the coordinating agency for collegiate honor societies. In ACHS, Sigma Lambda Chi is recognized as the honor society for construction management. Membership in Sigma Lambda Chi is noticed in the construction industry through its strong and honorable reputation.

7. Student Chapter, National Association of Home Builders (NAHB)



VISIT AT: www.hbi.org



The NAHB is an organization that represents the interests of large and small residential construction companies throughout the United States. This organization has a strong presence in the construction industry through publications, Congressional lobbying, and up-to-date information on building projects, laws, and other issues affecting home builders.

In becoming a member of ASIC, membership is given into the Master Builders Student Chapter. The term "Master Builders" is the name of the King and Snohomish County Chapter of NAHB. This organization offers many enriching opportunities and scholarships to student members. The NAHB annual student competition, which is held during winter quarter in conjunction with the NAHB convention, provides an opportunity for University of Washington students to test their skills with students from other universities.

B. STUDENT COMPETITIONS

Four annual Regional and National Construction Management Student Competitions are held each year and are described below. Students in the Construction Management Program and Dual Degree Program are encouraged to take part in these competitions, which provide valuable and enjoyable learning experiences and exposure to industry professionals.

1. The Associated Builders and Contractors (ABC) National Competition

This competition is held in conjunction with ABC's annual convention, which occurs in winter quarter of each year. CM students compete in teams of four against students from other construction program nationwide. It's an intense day-long competition, performing a series of conceptual estimating exercises for a project. Prior to the event, teams perform a base estimate, prepare a project schedule, and develop a safety plan, then come prepared to incorporate several owner-directed alternates into their proposals. Five finalist teams are chosen to verbally present their submission to a panel of judges acting as project design professionals.

2. The Associated School Construction (ASC) Western Regional Competition

The ASC competition takes place in the winter quarter (usually February) in Reno, Nevada. CM students compete against students from other construction programs in California, Oregon, and Washington.

The teams are judged on their ability to plan, schedule, present, and execute a project. The competition tests creativity, understanding of construction techniques, and thoughtful management. Each team can compete in one of the divisions: Commercial Building, Design-Build, Heavy-Civil, Residential, Marine, Preconstruction Services, LEED, and graduate.

3. The National Association of Home Builders (NAHB) National Competition

This competition, which is usually held in conjunction with NAHB's annual convention, occurs in winter quarter of each year. CM students compete against students from other construction programs nationwide.

4. Mechanical Contractors Association of America (MCAA) National Competition

This competition is conducted in conjunction with MCAA's annual convention, which occurs in winter quarter each year. Construction Management students compete against student teams from other construction programs throughout the United States.

5. National Electrical Contractors Association (NECA) National Competition (Green Energy Challenge)

This competition is conducted in conjunction with NECA's annual convention, which occurs in autumn quarter of each year. The competition team is organized during the winter quarter, and a written proposal is submitted late in spring quarter. Finalists are selected during the summer for oral presentations during the NECA convention.

Results Highlight

NW Consumer Council Competition: 1st place

NAHB: 4th Place

ASC Regional 2014 Student Competition: Our students took first place in Heavy Civil, 2nd place in Mixed Use, and third place in Design Build.



III. UNDERGRADUATE BACHELOR OF SCIENCE DEGREE PROGRAM

A. ADMISSION REQUIREMENTS

Admission to the Department of Construction Management is competitive and based upon the student's GPA and motivation. Students must have completed 88 credits and all prerequisite coursework listed below by the beginning of the Autumn quarter to be eligible for admission.

CONSTRUCTION SCIENCES

- Introduction to Visualization and Computer Aided-Design (ME 123) 4 credits

BUSINESS AND MANAGEMENT

- Introduction to Law Mgmt (MGMT 200) 5 credits
- Introduction to Acctg. & Fin. Reporting (ACCTG 215) 5 credits
- Fundamentals of Managerial Accounting (ACCTG 225) 5 credits

INDIVIDUALS AND SOCIETIES (I & S)

- Economics (ECON 100, 200 or 201) 10 credits
- Other I & S (CM 250 recommended) 5 credits

MATH & THE NATURAL WORLD (NW)

- MATH 112 or 124 or 145, 5 credits
- Introduction to Statistical Methods (Q METH 201) 4 credits
- General Physics I (PHYS 114 & 117) 5 credits
- General Physics II (PHYS 115 & 118) 5 credits
- Introduction to Geological Sciences (ESS 101) 5 credits
- Other Natural World, 10 credits

LANGUAGE SKILLS

- English Composition 5 credits
- "W" Courses 5 credits

VISUAL LITERARY AND PERFORMING ARTS (VPLA)

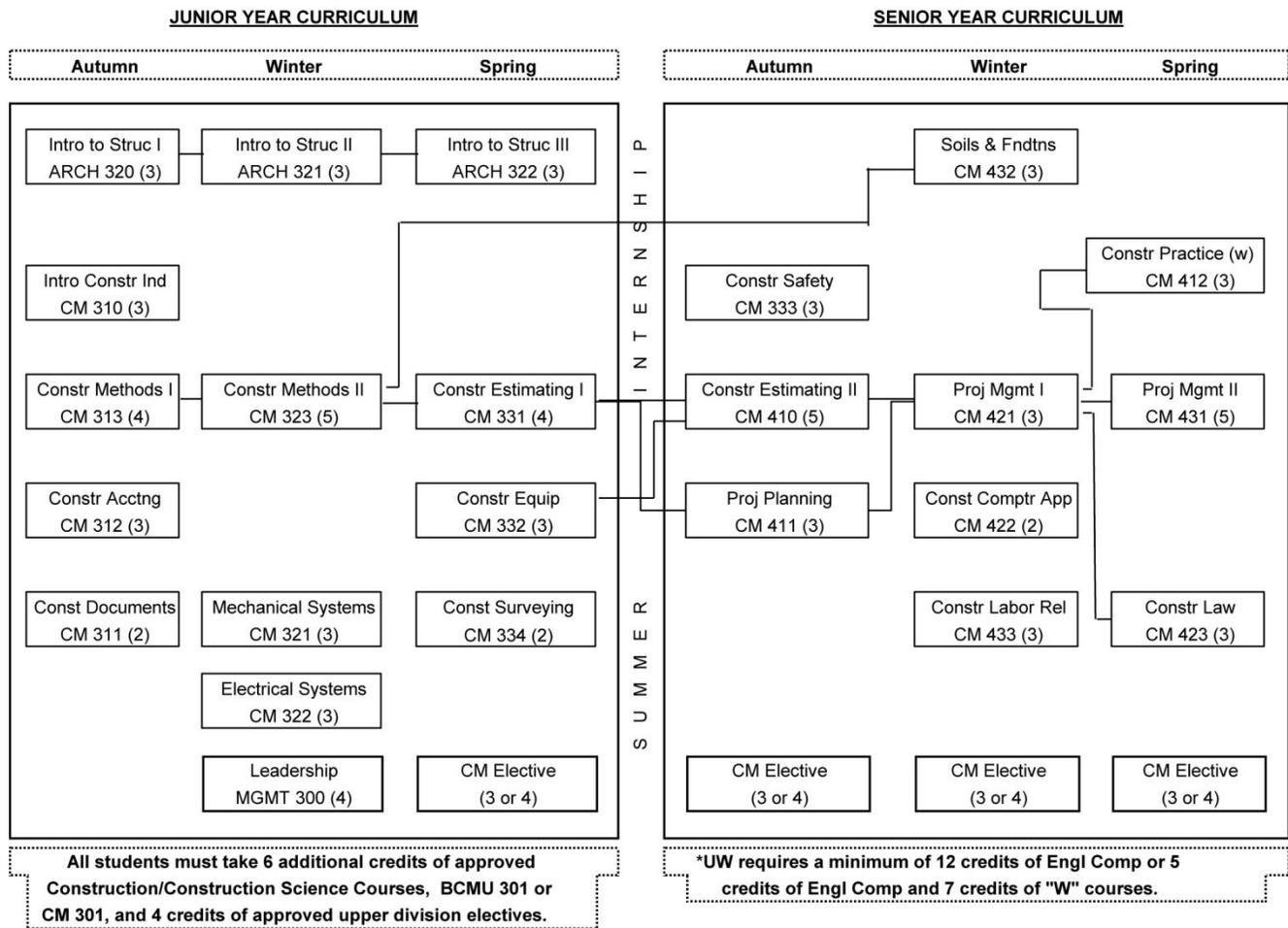
- Introduction to Public Speaking (COM 220) 5 credits
- Other VPLA, 5 credits

B. CONSTRUCTION MANAGEMENT GRADUATION REQUIREMENTS

The Bachelor of Science in Construction Management degree program requires, in addition to UW graduation requirements, completion of the four year curriculum with:

- A minimum of 180 approved credits: 88 prerequisites + 92 credits as follows:
 1. *Foundation Courses (73 credits):* ARCH 320, ARCH 321, ARCH 322; B CMU 301 or CM 301, CM 310, CM 311, CM 312, CM 313, CM 321, CM 322, CM 323, CM 331, CM 332, CM 333, CM 334, CM 410, CM 411, CM 412, CM 421, CM 422, CM 423, CM 432, and CM 433, MGMT 300
 2. *Construction/Construction Science Electives (6 credits):* Two of the following: CM 404, CM 414, CM 415, CM 420, CM 425, CM 430 or ARCH 420
 3. *Approved Electives (4 credits):* Upper division courses offered by the College of Built Environments or by the School of Business. (CM 413 recommended.)
 4. *Capstone Experience (5 credits):* CM 431
- A minimum 2.50 cumulative GPA in upper-division College courses
- A minimum grade of 2.0 in CM 431 and a cumulative 2.0 GPA in all UW courses
- The last 45 credits must be earned as a matriculated student in residence at the University of Washington.

C. CURRICULUM MAP



D. UNDERGRADUATE COURSE DESCRIPTIONS

CM 250 - Construction and Culture (5) I&S
Study of the evolution of modern building construction with emphasis on the relationship between the projects that have been built over time and the people who built them. Focuses on the development of building technology, equipment, and materials used by Western civilizations. Offered: W.

CM 301 – Construction Communications (4)
Applies business writing to the construction industry. Focuses on planning, writing, and editing documents most critical to a construction manager’s professional success. Offered: A, W

CM 310 – Introduction to Building Const. (3)

Introduction to the construction process, including general overview of organization, relationships, practices, terminology, project types, procurement methods, industry standards, contract documents, and career opportunities. Offered: A

CM 311 - Construction Documents (2)

Introduction to construction plans and specifications with emphasis on reading and interpreting them. Focuses on architectural/engineering drawings and associated specifications used in building construction. Prerequisite: CM 310; CM 313, which may be taken concurrently. Offered: A.

CM 312 – Construction Accounting (3)

Introduction to accounting for the contractor, placing emphasis on the analysis and use of financial statements and a job cost accounting system. Offered: A

CM 313 – Const. Methods & Materials I (4)

A study of basic building materials, with emphasis on techniques for assembly and utilization in residential and light construction, including materials such as stone, brick, and wood.

Offered: A, S

CM 321 – Mechanical Systems in Buildings (3)

Introduction to building heating, cooling, plumbing and fire protection systems including aspects of design, construction, estimating and problem solving. Offered: W

CM 322 – Electrical Systems in Buildings (3)

Introduction to the electrical systems used in construction management, electrical materials and terminology, electrical distribution, electrical cost estimating, electrical contracts documents, and electrical project management. Offered: W

CM 323 – Const. Methods & Materials II (5)

Evaluation of structural and non-structural systems for commercial, institutional, and industrial building types, including erection and coordination of specialty trades work and the

design and use of temporary structures.

Offered: W

CM 331 – Construction Estimating I (4)

Introduction to the principles and techniques of estimating construction costs, with emphasis on quantity take-off and pricing elements of work. Prerequisite: CM 323. Offered: Sp

CM 332 – Construction Equipment Management (3)

Introduction to principles and techniques for selecting and managing construction equipment. Review and evaluation of the types of earthmoving and other construction equipment, including the estimating and analysis of production, ownership and operating costs. Offered: Sp

CM 333 – Construction Safety (3)

Explanation of requirements of the Washington Administrative Code and related federal regulations as applied to the construction industry. Standards for accident prevention and responsibility for compliance emphasized. Offered: A

CM 334- Construction Surveying (2)

Introduction to construction surveying. Topics include: theory and practice of stone surveying, distance measurement, differential leveling, and construction layout. Offered: Sp

CM 340- Sustainable Building Design and Construction Practices (3)

Examines sustainable standards for design & construction of commercial and institutional buildings focusing on environmental, economic & social benefits of sustainable buildings. Offered: Sp

CM 404 - Design/Build Studio (6)

Study of the design/build process with emphasis on the synthesis of design and construction considerations. Focuses on developing design and construction concepts to meet program requirements specified in case studies. Offered: jointly with ARCH 404; W.

CM 410 – Construction Estimating II (5)

Estimating the major CSI divisions of work for commercial projects. Labor rates, specifications, budget estimating, assembling bids, use of estimating manuals, and estimating change orders. Prerequisite: CM 331, CM 332. Offered: A

CM 411 – Project Planning and Control (3)

A study of the basic principles, techniques and practices used as tools by contractors to plan, control and manage construction management projects. Offered: A

CM 412 – Construction Practice (3)

Introduction to the challenges of managing a construction organization. Focuses on ethical behavior, organizational behavior, human resource management, marketing, financial management, and risk management. Prerequisite: CM 421 Offered: Sp

CM 413 – Competitive Bus. Presentations (1)

Provides students with essential skills needed to develop and deliver professional business presentations utilizing workshop and practical exercises in presentation skills, teamwork, and leadership. Offered: A

CM 414 – Virtual Construction (3)

Examines the use of building information models for managing the construction process and facilitating collaboration among project participants. Offered: A

CM 415 - Heavy Construction Practices (3)

Introduction to heavy construction with emphasis on highway and bridge construction. Topics include: contract analysis, work breakdown, equipment selection, unit-price cost estimating, site logistics planning, and project scheduling. Prerequisite: CM 332. Offered: A

CM 420–Temporary Structures (3)

Review of temporary structures commonly used during the construction process of both building and bridge projects. The primary focus is on concrete formwork and shoring

methods. Prerequisite: ARCH 322.

Offered: Sp

CM 421 – Project Management I (3)

Systematic study of management functions in the building industry including project organization, budgeting, documentation, monitoring and expediting, administration, cost and control and the concepts of partnering and Total Quality Management. Prerequisites: CM 410 and 411. Offered: W

CM 422 - Computer Applications in Const. (2)

Introduction to the use of automated programs for planning, scheduling, and controlling construction projects. Focuses on the use of Primavera Project Planner software. Prerequisite: CM 411 Offered: W

CM 423 – Construction Law (3)

Legal issues arising from design and construction services, focusing on risk management and liability awareness. Topical areas include basic legal doctrines, the design professional/client relationship, contractor selection, the construction process, and professional practice problems. Washington State law is emphasized.

Prerequisite: CM 421 Offered: Sp

CM 425 – Concrete Technology (3)

Properties of fresh and hardened concrete; strength, elastic behavior, creep, shrinkage, and durability to chemical and physical attacks. New concrete-making materials. Recent advancements in concrete technology: high-strength, high-workability, and high-performance concrete; fiber-reinforced concrete, and roller-compacted concrete. Consideration of the broad aspects of use of concrete in construction; technical requirements; selection of materials; control of quality; types of concrete and construction methods used for buildings, highways, airfields, bridges and dams. Field trip to construction sites. Offered: W

CM 430 – Building Codes and Environmental Regulations (3)

Introduction to the permit process, life-safety requirements, and environmental

regulations for designs and construction of buildings as established by the national and local jurisdictions.

Prerequisite: ARCH 322. Offered: Sp

CM 431 – Project Management II (5)

Capstone Project using case studies to apply skills, knowledge, techniques, and concepts developed in prior courses. Emphasis on the concept of integrated project management including cost estimating and bidding, scheduling, cost control, safety, project organization, and documentation. *Minimum grade of 2.0 in this course required for graduation.* Prerequisites: senior standing; and CM 421. Offered: Sp

CM 432 – Soils and Foundations (3)

Origin, classification and physical properties of soil as used in engineering and construction applications, together with loads and stresses of soil on and from the more common types of engineering structures. Prerequisite: ARCH 322, CM 323. Offered: W

CM 433 – Construction Labor Relations (4)

Construction labor topics, including labor-management organization, legislation, and regulation, collective bargaining, and job site administration; in-depth discussions on the law and policy of construction labor relations. Entry code required for non-majors. Offered: W

E. ACADEMIC PROBATION

Academic probation is essentially a warning to the student that he/she must show improvement if he/she is to remain in the Department.

Any undergraduate student shall be placed on department academic probation when his/her college grade point average falls below 2.50. An undergraduate student on academic probation will be removed from probation at the end of any quarter in which his/her college grade point average reaches 2.50 or better. If the student does not raise his

or her grade point within one quarter, they will be dropped from the program.

Any undergraduate student whose grade point average for his/her first quarter at the University falls below 2.00 shall be warned that his/her scholarship is unsatisfactory, and that if he/she fails to achieve a cumulative grade point average of 2.00 by the second quarter shall be placed on academic probation. The Registrar under delegated authority from the Dean of the College in which the student is enrolled shall notify the student as soon as possible that either (a) his/her scholarship is unsatisfactory, or (b) he/she has been placed on scholastic probation. The student is reminded further that he/she should consult with his academic adviser immediately to discuss future academic plans.



F. SUMMER INTERNSHIP PROGRAM

In order to graduate with a Bachelor of Science in Construction Management, **each student must complete at least one three-month internship within the construction industry.** The purpose of the internship is for the student to gain practical experience at a construction site and/or in a construction firm's office.

Employers can be involved in any aspect of the building industry. It is hoped that each student will be placed in a learning situation, with exposure to as many facets of construction management and/or building technology as possible. This is exclusive of any monetary

compensation negotiated between the student and employer.

It is the student's responsibility to obtain an internship and notify the Department of Construction Management by submitting an application no later than June 1. Applicants must have completed a minimum of 45 Construction Management credits by the end of the Spring quarter.

Those students who have their own prospects for summer employment with construction firms and who meet the above criteria, are required to notify the Department by completing an application form. The student must receive approval by the Department to use his/her summer employment for the internship program.

Each student should approach a prospective employer regarding an internship and provide a copy of the internship guidelines. Once the employer agrees to provide an internship, the student should complete the application form and submit it to the Department office. At the end of the summer, the student needs to ensure that the employer submits a completed evaluation form and annotated Intern Checklist.



G. STUDENT GRIEVANCE PROCEDURES

Any student who believes he/she has a grievance should contact the chairperson of the Grievance Committee, Professor Kamran Nemati. A committee will promptly investigate the alleged grievance and make a determination as to its validity. The investigation will include input from both the student and the implicated faculty member. If

the grievance appears unfounded, the committee will provide the student with a written response. If the grievance appears to be substantiated, the committee will report the case to the supervisor of the faculty member.

H. FINANCIAL AID AND SCHOLARSHIPS

Undergraduate students may apply for financial assistance through the Office of Student Financial Aid located in Schmitz Hall, Room 105. This office administers federal, state, and private financial aid programs designed to help students pay for their education. Assistance is offered in the form of grant aid, scholarships and long term loans. Work opportunities are also available. To be eligible for financial aid, the student must be a citizen or permanent resident of the United States and be admitted as a matriculated student.

The Office of Student Financial Aid also administers a short-term emergency loan program for full-time students who find themselves in temporary, severe financial difficulty. University students may take full advantage of the short-term emergency-loan program without applying for financial aid.

Students who have been admitted as juniors in the Construction Management Program have several opportunities to apply for scholarships during the academic year. Amounts for individual scholarships have been as high as \$3000 with most ranging from \$1000 to \$2000.

Sources of scholarship funding include:

- Professional organizations such as the Associated General Contractors, the National Association of Women in Construction, Master Builders, MCA, and AACE International.
- Department of Construction Management

Applications for scholarships are made available by the funding organizations at various times during the year. Students

typically take the following steps to compete for scholarships:

- a) Read the notices on the CM bulletin board located outside of CM offices in Architecture Hall, room 120. Listen for announcements in class of currently available or forthcoming application opportunities. Check e-mail messages on a bi-weekly basis.
- b) Obtain an application (usually available over the counter at the Department of Construction Management office).
- c) Complete and submit application per specific instructions.

After scrutinizing applications, most funding organizations select finalists to appear for an interview prior to selection of recipients.

For successful applicants who are awarded some of the limited number of CM Department Scholarships, the funds will be distributed in equal quarterly installments at the beginning of Autumn, Winter and Spring quarters of the academic year for which these scholarships are awarded.

To qualify to receive these requirements, each applicant **MUST** meet the following requirements at the time of application and during the Autumn, Winter and Spring quarters of the academic year in which the award is received:

- a) Enrolled as a full-time construction management major
- b) Enrolled in and regularly attending CM classes that are required during the current quarter
- c) Maintain a minimum grade point average of at least 2.50 in all prior CM work

Students who fail to meet the above requirements in any quarter will be required to refund scholarship funds to the University of Washington.

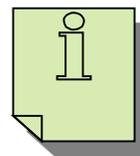
I. STUDENT ADVISING

The CM Undergraduate Academic Adviser works with prospective candidates to guide them in the completion of their prerequisite courses and the preparation of their application.

For current CM students, the Undergraduate Academic Adviser is available to assist with:

- Student records, including transfer credits and degree audits
- Access to university support services
- Scholarship opportunities
- Information about other events and activities of interest to CM students

Upon admittance to the CM undergraduate program, each student is assigned a CM faculty adviser. Faculty advisers meet with assigned students prior to the beginning of their initial autumn quarter to develop academic plans for completing graduation requirements. Advisers monitor the progress of assigned students and advise them on the selection of courses. Students contact their advisors directly when scheduling advising appointments.



The CM Undergraduate Adviser is
Roz Edison 206-685-4438
redison@u.washington.edu

J. EMPLOYMENT OPPORTUNITIES

Some graduates from the undergraduate program in Construction Management usually fill entry-level positions such as estimators, schedulers, field engineers, inspectors, construction materials or equipment sales representatives and construction insurance or bonding personnel. Others go on to graduate studies in construction management, engineering, law or business management.

Students are encouraged to begin their job search early (in the Autumn and Winter quarters of their senior year). While the Department receives a limited number of notices of job openings, students are encouraged to make their own contacts in the industry. A Career Fair is usually scheduled in Autumn quarter to facilitate the job search process. Students are also encouraged to make sure that their resumes are included in the graduating senior resume book developed each year by the Association of Students in Construction. As part of the job search, students should:

1. Attend all functions where there are opportunities to meet and interact with industry representatives
2. Read the job notices in the CM Office
3. Note job openings that may be announced by the faculty in class and
4. Attend the CM Career Fair
5. "Friend" CM Adviser on Facebook

IV. FACILITIES

The CM Administrative office is located in Architecture Hall, Room 120. Students are not permitted to use telephones, copiers, fax machine and computers in the CM office. Copying machines are available in the Architecture Library, located on the third floor in Gould Hall. There are also numerous copy centers on University Way ("The Ave"). The following facilities are available for student use:

A. LIBRARIES

The Architecture Library is on the third floor in Gould Hall. In addition to that, there are also libraries in the College of Engineering (a 10-minute walk) and the School of Business Administration (Balmer Hall, a 10-minute walk) that may be of interest to CM students. The main Library (Suzzallo) is only a five-minute walk away.

B. CENTRAL COMPUTING FACILITY: DIGITAL COMMONS

The Digital Commons is located in Gould Hall, Room 007, and is available to all College of Built Environment students. The Digital Commons has 60 Windows PC's and 8 MC OSX G-5's, as well as four spaces with digital projectors for student presentations. Integrated into the space is a 30-person soundproof computer assisted classroom. Hours of operation for the Digital Commons are Monday-Friday, from 8:00am-5:00pm; after hours a building key is required. Secondary sources of computers include Odegaard Library and Suzzallo Library. As the password changes periodically, the Department secretary will have the current password.

V. DEPARTMENTAL COMMUNICATION

The Department is committed to communicating with students on a regular basis. In addition to individual advising and/or faculty appointments, CM staff will send group e-mail messages regarding employment opportunities, scholarships, CM and college-wide events and other relevant announcements. Announcements may also be posted on the CM webpage or bulletin board. Please check these on a regular basis.

Registration Deadlines

	AUTUMN 2014	WINTER 2015	SPRING 2015
Registration Period I Priority Registration	May 9-June 22, 2014	Nov 7-Nov 23, 2014	Feb 13-Mar 1, 2015
Registration Period II	June 23-Sept 23, 2014	Nov 24, 2014-Jan 4, 2015	Mar 2-29, 2015
Late Registration Fee begins (\$25) [First-time registration (signing up for a class) for the quarter]	Sept 24, 2014	Jan 5, 2015	Mar 30, 2015
Registration Period III	Sept 24-30, 2014	Jan 5-11, 2015	Mar 30-Apr 5, 2015
Registration for Tuition Exemption Program - UW Faculty/Staff	Sept 26, 2014	Jan 7, 2015	Apr 1, 2015
Registration for UW Access Program	Sept 26, 2014	Jan 7, 2015	Apr 1, 2015
Registration for Tuition Exemption Program - Wash. State employees	Sept 27, 2014	Jan 8, 2015	Apr 2, 2015
Late Registration Fee begins (\$75) [First-time registration (signing up for a class) for the quarter]	Oct 8, 2014	Jan 19, 2015	Apr 13, 2015
	AUTUMN 2014	WINTER 2015	SPRING 2015

Adding/Dropping Courses or Complete Withdrawal

	AUTUMN 2014	WINTER 2015	SPRING 2015
Last day to add, drop or change a course in the Registration Office without being assessed a \$20 Fee and possible tuition forfeiture	Sept 30, 2014	Jan 9, 2015	Apr 3, 2015
Last day to withdraw at the Registration Office without owing tuition or fees	Sept 30, 2014	Jan 9, 2015	Apr 3, 2015
Last day to add, drop or change a course through MyUW without being assessed a \$20 Fee and possible tuition forfeiture	Sept 30, 2014	Jan 11, 2015	Apr 5, 2015
All courses require entry codes to add beginning	Oct 1, 2014	Jan 12, 2015	Apr 6, 2015
Unrestricted drop period \$20 fee	Oct 1-7, 2014	Jan 12-18, 2015	Apr 6-12, 2015
Late Add Period - \$20 fee and Entry Codes required to add all courses beginning	Oct 1, 2014	Jan 12, 2015	Apr 6, 2015
Last day to change to or from audit grade option . A \$20 fee may be charged	Oct 7, 2014	Jan 16, 2015	Apr 10, 2015
Late Course Drop Period Use of Annual Drop Required and a \$20 Fee is Assessed	Oct 8-Nov 11, 2014	Jan 19-Feb 22, 2015	Apr 13-May 17, 2015
Last day to add a course through MyUW	Oct 14, 2014	Jan 25, 2015	Apr 19, 2015
Last day to change to or from S/NS grade option. \$20 fee	Nov 11, 2014	Feb 22, 2015	May 17, 2015
Last day to withdraw (dropping all classes)	Dec 5, 2014	Mar 13, 2015	June 5, 2015
Last day to change variable credits (must be done in Registration Office, 225 Schmitz Hall)	Dec 5, 2014	Mar 13, 2015	June 5, 2015
Last day for graduate students to pay on-leave fee	Dec 5, 2014	Mar 13, 2015	June 5, 2015
	AUTUMN 2014	WINTER 2015	SPRING 2015