# **EXECUTIVE RCM (XRCM)**

#### XRCM 4000 Triple Bottom Line and the Built Environment (4 Credits)

An exploration of the importance of real estate and the built environment through triple bottom line analysis of its social, environmental, and economic impacts. The course considers a "cradle to cradle" sustainability model that links the various phases, functions, and professions of real estate, project delivery, and asset/facility management to create holistic, value-generating solutions for society. Professional practices/skill sets associated with the many career options that engage the built environment are demonstrated.

# XRCM 4007 Real Estate Financial Analysis (4 Credits)

Alternative analysis formats that can be applied to a wide array of real estate analysis issues; simulates working/decision-making environment; structured overview of analysis tools focused on specific facets of multidimensional real estate decision-making environment; applications in investment analysis, feasibility analysis, valuation, market analysis, and report writing and presentation. Prerequisite: XRCM 4407.

#### XRCM 4010 Real Estate Capital Markets (4 Credits)

This course will expose students to the Commercial Real Estate Capital Markets that have evolved from exclusively private in the 1980s to a mix of private and public, including commercial mortgage backed securities (CMBS) and real estate investment trusts (REITs), in the 1990s. Any person involved in real estate today must understand all the alternative capital sources available and their requirements. Students will be exposed to the positives and pitfalls of all the capital market products. This course will provide students with the general concepts and definitions. A combination of lectures, guest lectures from industry experts, text & article readings, class discussions, and case studies using real life examples. Prerequisite: REAL 4007.

## XRCM 4110 Preconstruction Integration and Planning (4 Credits)

This course examines the role of preconstruction services, team integration, and joint design planning in various Integrated Project Delivery (IPD) approaches. Various tools and techniques associated with preconstruction services and design planning from the proposal stage through the design stages of a project are considered.

## XRCM 4115 Corporate Real Estate and Management (4 Credits)

This course provides a snapshot view of the corporate real estate life cycle and how to strategically plan and manage it. The course addresses key CRE issues including globalization, technology, sustainability and the enterprise business model. Within the framework of a corporate or agency structure, facility management is addressed as a distinct and critical component of successful performance. Topics include facility planning and forecasting, lease administration, space planning, allocation, and management, workplace planning, budgeting, and economic justification, real estate acquisition and disposal, sustainability management, construction project management, move, add, change (MAC) management, operations, maintenance and repair, technology management, emergency, security and life-safety management, and general administrative services.

### XRCM 4120 Construction Planning and Scheduling (4 Credits)

Understanding and applying scheduling and control to construction projects is essential to successful construction management. Project scheduling emphasizes network-based schedules, such as critical path management (CPM), network calculations, critical paths, resource scheduling, probabilistic scheduling and computer applications. Project control focuses on goals, flow of information, time and cost control, and change management. Prerequisite: XRCM 4420.

#### XRCM 4140 Global Perspectives in Real Estate (4 Credits)

Cross listed with REAL 4140.

# XRCM 4155 Sustainable Development/LEED (4 Credits)

The course includes many case studies of historic and contemporary structures exemplifying various sustainability features. Emphasis is placed on how LEED project certification influences the overall construction project. Topics include LEED certification techniques for sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation and design. The following topics are covered from a LEED perspective: ventilation, air conditioning, heating, electrical lighting, energy efficiency, and building control systems. The student studies and analyzes how management and LEED techniques are applied to current construction projects.

#### XRCM 4177 Environmental Systems and MEP Coordination (4 Credits)

A study of electrical and mechanical systems used in the construction of buildings. Course content includes system design, component selection and utilization for energy conservation, cost estimating or systems, coordination and management of installation. Specific systems included are electrical, air conditioning, heating, ventilation and plumbing, fire protection, life safety, communication, power systems and lighting. The course also considers coordination of MEP systems and explores emerging technology and environmental issues related to mechanical and electrical systems in buildings. Cross listed with CMGT 4177.

# XRCM 4180 Construction, Layout and Surveying (4 Credits)

Theory, principles and techniques of constructing layout and surveying; field procedures in fundamental surveying; site, foundation and frame layout.

#### XRCM 4200 Lean Const Project Mgmt (4 Credits)

This advanced course focuses on cutting edge lean tools and other productive strategies for the management of people and processes in the construction industry. The tools and strategies presented draw on the very successful Toyota Production System adapted to the construction industry. Lean construction methodologies such as the Last Planner System, the Lean Project Delivery System, and Integrated Project Delivery are discussed. Topics also include sustainability and the emerging interest in "green construction," as well as the use of Building Information Modeling to enhance the development and management of integrated projects. This course also looks at the human element in relation to motivation, safety, and environmental stresses. A number of case studies are presented to highlight best practices in Lean Construction Project Management. Prerequisite: XRCM 4480.

## XRCM 4210 Planning, Entitlements, and Public Finance (4 Credits)

Real estate development, place making, and community building require the combined efforts of the public, for-profit, and non-profit sectors. Participants in the real estate development process need to understand and appreciate the sometimes competing and sometimes collaborative interests of governments, agencies, and the private developer. This course is designed to familiarize students with the overall context of urban planning and land use. Students discover the variety of participants in the development process and also become familiar with the project entitlement process, zoning, and land use regulation. Students also examine public/private financing structures such as public-private-partnerships (P3s) and become familiar with detailed calculations relating to Tax Incremental Financing (TIF) and Metropolitan Districts.

#### XRCM 4230 Design Management and Schedule Control (4 Credits)

This course examines the various strategies and techniques associated with managing the design delivery process to align with the construction budget and schedule needs in an integrated fashion. Design planning, scheduling, and resource allocation are considered along with design value determination and management of the design-construct interfaces. Constructability, value engineering, design performance.

## XRCM 4250 Construction Job Site Management (4 Credits)

This course addresses how a successful construction project is managed and administered from design through construction to closeout. Emphasis will focus on how to unite the key stakeholders (contractors, architects, engineers, etc.) to provide them with a workable system for operating as an effective project team. The latest technology, laws and regulations associated with contract administration will be presented. Topics pertinent to each stage of a project are introduced and discussed as they occur throughout the life of the project. Numerous real-world examples will be utilized throughout the course. Various electronic project administration tools and techniques will be demonstrated including Building Information Modeling.

#### XRCM 4310 Cost Modeling and Trend Management (4 Credits)

This course covers various approaches to construction cost estimating at the conceptual stages of planning and design through detailed construction. Students learn parametric estimating techniques and how they are applied to construct and predict reliable budgets at the earliest stages of design. Students build cost models and refine those models with greater detail as design develops through a project. Building information modeling is introduced and used to create massing models to demonstrate design impacts on project costs. Cost trending techniques are presented to manage, monitor and document project performance relative to cost. Prerequisite: XRCM 4410.

## XRCM 4320 Introduction to Architecture and Design Management (4 Credits)

This course introduces students to the significant value that architecture brings to real estate and the built environment and the various services and professions associated with it. Students will be introduced to principles, protocols and the planning process related to the design function and the link between the architect's vision and the finished physical structure. Students will be introduced to design, thinking, theory and application. Student will learn to read and interpret the various graphical and written construction documents as well as know how they are developed and what information they contain. Architectural, structural, mechanical, electrical, plumbing and civil drawings and specifications are covered. The business model for design services will be explored as well as the unique risks and challenges associated with managing the design throughout the various stages of development and construction.

#### XRCM 4337 RE Securities/Syn/Entrep (4 Credits)

Introduction to real estate securities; emphasis on private offerings; determining whether a contemplated transaction involves a security, and what happens if it does; exemptions from registration (Reg D); registration requirements; investor suitability, how to syndicate, acquisition of property, marketing of the property, tax structure and formation of syndication, compensation to syndicators, real estate tax considerations. Cross listed with REAL 4337.

#### XRCM 4347 Management - Income Properties (0-4 Credits)

Complex problems of managing apartments, condominiums, office buildings, industrial property and shopping centers; rental markets, development of rental schedules, leasing techniques and negotiations, repairs and maintenance, tenant relations, mechandising, selection and training of personnel, accounting, owner relations.

#### XRCM 4357 Corporate Real Estate and Management (4 Credits)

This course provides a snapshot view of the corporate real estate life cycle and how to strategically plan and manage it. Over the ten week period we will address the diverse but critical components that together account for Facility Management. These shall include: Building Life Cycles and sustainability, facility management as part of the enterprise model within a corporate structure, regulatory agencies, professional relationships and the impact of the build environment on the bottom line, contracting and budget management, move-add-change (MAC) / operations, and general administrative services.

#### XRCM 4369 Real Estate Taxation (4 Credits)

Tax factors affecting investments and operations in real estate; special attention is given to legal forms of ownership, depreciation, tax basis, tax impacts of exchanges, syndications, real estate securities, and other federal tax laws affecting real estate.

#### XRCM 4407 Income Property Finance (4 Credits)

Conventional and alternative (creative) financing techniques, mortgage banking, law and markets, loan underwriting analysis, the impact of monetary and fiscal policies on the real estate and mortgage markets, emphasis on case studies and microcomputer applications.

#### XRCM 4410 Construction Building Systems (4 Credits)

A survey of residential and commercial construction materials, means, and methods associated with the various structural and architectural systems used to design and construct buildings. Project plans and specifications are incorporated to teach the basic sequencing and overall construction process. The influence of sustainability in construction is introduced.

#### XRCM 4417 Income Property Valuation and Appraisal (4 Credits)

Residential/Commercial appraising, including market cost and income approaches to value, gross rent multiplier analysis, neighborhood and site analysis, valuation of income properties including market cost and income approaches to value, capitalization theory and techniques, mortgage-equity analysis, and investment value concepts. Prerequisite: XRCM 4407.

# XRCM 4420 Construction Estimating (4 Credits)

Integrated approach addressing construction accounting, estimating, purchasing, and management reporting systems. Cross listed with CMGT 4420. Prerequisite: XRCM 4320 & 4410.

#### XRCM 4438 Legal Issues & Risk Management (4 Credits)

General contract and real estate law, including property rights, title concepts, deeds, purchase contracts, law of agency, environmental issues and disclosures, basics finance concerns, tax law, landlord-tenant law, construction contracts, indemnity agreements, rights and remedies of property owners, contractors and subcontractors issues, and various areas of liability for real estate practitioners and property owners.

## XRCM 4467 Property Development and Feasibility (4 Credits)

Commercial real estate development analysis and feasibility includes economic base analysis, tenant demand analysis, development and construction cost analysis, lease-up analysis, financial feasibility, leasing and property management practices. Five major property types (office, industrial, retail, apartment and hotel) are covered. Prerequisite: XRCM 4007.

#### XRCM 4477 Income Property Investment (4 Credits)

Comprehensive analytical framework for real estate investment decision-making, equity investment decisions via discounted cash flow, and risk analysis models and strategic planning concepts, structuring parameters to maximize rates of return while controlling downside risks; emphasis on theory, concept building, and practical application to various types of investment properties. Prerequisite: XRCM 4007.

#### XRCM 4480 Construction Project Mgmt (4 Credits)

This course introduces the student to project management scheduling techniques and methodologies. The student will be exposed to different scheduling techniques, how to develop a project schedule of limited scope, and how to utilize the project schedule for planning and monitoring job progress.

#### XRCM 4490 Residential Development (4 Credits)

A course sequence designed to emphasize the practical application of the theories and concepts of residential development. Students are expected to apply their knowledge of general business, real estate, and construction management practices by forming a student business entity, acquiring land, building and selling a residential property in a case format. Students apply accounting, finance, marketing, real estate, and construction management techniques in the planning for a residential development.

#### XRCM 4560 Relational Contracting and Risk Mitigation (4 Credits)

Relational contracting is a construction project delivery framework for multidisciplinary, integrated projects that focuses on aligned goals, high performance, innovation, mutual respect, open communication and a "no blame" culture between Client, Contractor, and Design Team. This approach to contracting, also known as Alliance Contracting, is becoming more prevalent in the United States and is often applied when using integrated project delivery systems. This course compares and contracts transactional contracting methods with relational contracting methods and the influences on the project team and projects outcomes. Relational contracting is also considered in the context of risk mitigation and project optimization.

#### XRCM 4580 Strategic Intelligence and Integrated Project Leadership (4 Credits)

This course examines the unique leadership skills and talents associated with leading and facilitating multidisciplinary, integrated design and construction teams. The focus of the course is on applying strategic intelligence and a system of leadership in the development of integrated solutions for the built environment. This leadership model is driven by a compelling purpose and supported by people who share practical values and have excellent processes, to look into the future, create a vision, and bring that vision to reality. Effective strategies for supporting high performance teams are explored.

# XRCM 4700 Topics in RE & Const Mgmt (1-5 Credits)

This course will be used for experimental purposes. A way to trial the content of course, relevancy, interest, etc. prior to developing the permanent course.

#### XRCM 4701 Global Persp in Real Estate II (4 Credits)

This course focuses on inbound U.S. and outbound U.S. real estate issues, with a mix of cultural issues that impact real estate transactions.

# XRCM 4702 Argus Financial Analysis (4 Credits)

Using Argus Financial Software to solve complex Real Estate Investment problems. Cross listed with REAL 4500. Prerequisite: XRCM 4007.

# XRCM 4705 Risk Management in the Built Environment (4 Credits)

Decision making and risk analysis concepts in the context of real estate and the built environment. This includes, but is not limited to, liability issues as to persons and property, casualty and property damage questions, employee and employer insurance areas, auto insurance, professional liability insurance, directors' and owners' liability issues, medical insurance, life insurance, environmental risks, and much more in areas of exposure that one can face in the business world. The course further examines means to minimize such areas of exposure.

#### XRCM 4777 Real Estate Principles and Practices (4 Credits)

Introduction to home ownership, real estate industry and its markets; legal aspects of home ownership from consumer's points of view, including property rights, title concepts, deeds, purchase contracts, listing contracts, law of agency, types of mortgages, basics of home loan finance, appraisal, investment and tax benefits. Partially satisfies Colorado real estate sales licensing requirements.

# XRCM 4980 Adv Valuation/Report Writing (4 Credits)

Advanced cutting-edge techniques not yet institutionalized nor commonly practiced in the field. Includes writing skills workshops appropriate to specialized nature of appraisal reports, and composition of a complex field problem report to prepare student for writing "demonstration" report required for MAI professional designation. Prerequisite: XRCM 4417.

XRCM 4981 Internship (1-10 Credits)

XRCM 4991 Independent Study (1-10 Credits)