

SECTION I: The Request

The University of Utah's David Eccles School of Business and the College of Architecture + Planning requests approval to offer the **Master of Real Estate Development** effective fall semester 2009.

Executive Summary

Program Description

The Master of Real Estate Development (MRED) is a 39.0 credit hour program designed to attract business, architecture, urban planning, engineering, and law students with real estate industry interests and aptitudes. Through utilization of a cross disciplinary approach the program will provide the necessary skill set for immediate impact in a professional setting upon completion. Students will work together throughout the program to understand and apply sound principles of real estate finance, analysis, and development. The degree will be managed by a new Real Estate Program housed jointly in the David Eccles School of Business and the College of Architecture + Planning

The MRED includes core, restrictive elective, and capstone benchmarks. The core is composed of a battery of courses in real estate principles, finance, development, applications of geographic information systems to planning and development, and site planning focusing on sustainability. It includes courses in team work (professional collaboration) and negotiation/conflict management. Students will specialize in an area related to real estate development from among finance, planning, architecture, transportation, and sustainability. A capstone will include working with a team to solve a complex real estate development challenge.

Role and Mission Fit

The Mountain West (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) is the nation's fastest growing region. By 2040, the region will double in population to more than 30 million people with nearly 20 million jobs. Most of the existing built environment will be rebuilt. Real estate professionals will play a leading role in the development and redevelopment of the region.

The mission of the MRED program is to produce graduates who will *serve the people of Utah and the world through the discovery, creation and application of knowledge; through the dissemination of knowledge by teaching, publication ...; and through community engagement* (italicized language from the University Mission Statement). The core curriculum and matriculation benchmarks are designed to facilitate discovery and knowledge creation in the context of professional real estate development. The program is also designed to engagement through problem solving in public decision-making processes.

Faculty

The MRED program will be managed by faculty members in the College of Business and the College of Architecture + Planning, illustrated in the table below.

<u>Status</u>	<u>Tenure #</u>	<u>Contract #</u>	<u>Adjunct #</u>
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Number of faculty with Doctoral degrees	8	0	0
Number of faculty with Master's degrees	2 ¹	0	2
Number of Other Faculty	3 ²	0	0

¹ Includes a faculty member with a J.D. and another with an MBA and MS.

² Includes two faculty members with Ph.Ds and another with an M.Arch.

Market Demand

We estimate a national demand for 1,200 masters of real estate graduates annually each year. With 20% of the nation's growth, the Mountain West region needs about 200 real estate master degree graduates annually. Existing graduate programs in the region graduate about half this number each year.

Student Demand

Graduate real estate courses are heavily subscribed to often with capped enrollment. We estimate more than 20 undergraduate business students would prefer to continue their education with one additional year to pursue the MRED degree. We estimate at least an equal number of prospects in the community who wish to pursue graduate education in real estate. An unknown demand will exist among students nationally wishing to study real estate in the Mountain West. Given the combined strengths of the two lead colleges, the University of Utah may be the top-rated opportunity in the region for these students.

Statement of Financial Support (first five years)

The largest resource required is the faculty component, which is already in place. The program will be financially self-sufficient.

Legislative Appropriation	\$0
Grants	\$0
Reallocated Funds	\$0
Tuition to Program (Differential)	\$1,170,750
Productivity	\$0
Other (College commitments to graduate assistantships)	\$0
Total	\$1,170,750
Revenues in excess of costs (ratio)	\$795,580 (3.12)

Similar Programs Already Offered in the USHE

There are no similar master degrees offered by any unit within the Utah System of Higher Education.

Section II: Program Description

Complete Program Description

This is a proposal for a Master of Real Estate Development degree. It will be available to students on a full-time and part-time basis. The MRED will be a 39¹ credit hour program designed to attract business, architecture, urban planning, engineering, and law students with real estate industry interests and aptitudes. Through utilization of a cross disciplinary approach the program will provide the necessary skill set for immediate impact in a professional setting upon completion. Students will work together throughout the full time program to understand and apply sound principles of real estate finance, analysis, and development. The degree will be managed by a new Real Estate Program housed in the College of Business in collaboration with the College of Architecture + Planning

The MRED includes core, restrictive elective, and capstone benchmarks. The core is composed of a battery of courses in real estate principles, finance, development, applications of geographic information systems to planning and development, and site planning focusing on sustainability. It includes courses in team work (professional collaboration) and negotiation/conflict management. Students will specialize in a field area from among:

- Finance and real estate development
- Planning and real estate development
- Architecture and real estate development
- Transportation and real estate development
- Sustainability and real estate development

A capstone will include working with a team to solve a complex real estate development challenge. The core and restricted elective courses are reviewed below.

The MRED is a professional degree. Around the US, real estate is a specialization in many Master of Business Administration programs, notably the Wharton School (University of Pennsylvania), Michigan, Wisconsin, among others. It is also a specialization in planning, notably Harvard, Georgia Tech, and North Carolina, among others. But there is a movement to create distinct graduate real estate degrees for three reasons. First, the MBA and graduate planning degrees take two (or more) years to complete whereas the graduate real estate degrees require only one. Second, more real estate education can be delivered in one full time year of study than as only a specialization in a two-year degree program. Third, with more than 500 graduates annually and rising, the market responsiveness to a distinct degree in real estate has been proven with more on the way. The following table reports 17 graduate degree programs in real estate offered by major universities. New graduate real estate degrees are in the planning stages at Georgia Tech, Michigan, and Virginia Tech.

At maturity after five years, we anticipate about 35 FTE students seeking the MRED. (There will be another 10 FTE students enrolled in the graduate certificate in real estate program proposed simultaneously with this.)

¹ The range among programs reviewed in depth for this proposal was 30 to 44 semester credit hours with an average of 36 semester credit hours

Real Estate Masters Degrees among Major Universities

University	Degree Name
Arizona State University	Master of Real Estate Development
Clemson University	Master of Real Estate Development
Columbia University	Master of Science in Real Estate Development
Cornell University	Master of Professional Studies in Real Estate
DePaul University	Master of Science in Real Estate
George Mason University	Master of Real Estate Development
Georgia State University	Master of Science in Real Estate
Johns Hopkins University	Master of Science in Real Estate
MIT	Master of Science in Real Estate
New York University	Master of Science in Real Estate
Texas A&M	Master of Real Estate
University of Denver	Master of Science in Real Estate and Construction Management
University of Florida	Master of Science in Real Estate
University of Maryland	Master of Real Estate Development
University of Southern California	Master of Real Estate Development
University of Texas - Arlington	Master of Science in Real Estate
University of Washington	Master of Science in Real Estate

Purpose of the Degree

The MRED continues the tradition of the College of Business to meet the needs of modern society through collaborative graduate education options. Real estate is a particularly multi-disciplinary profession involving management, finance, planning, and analytic skills applied to social, political, and economic processes. As growth and development needs mount especially in Utah and the Mountain West, more professionals will be needed who can create collaborations among disciplines, institutions, and the public. The purpose of the MRED is thus to produce graduates capable of performing rigorous analysis about real estate needs, trends, and opportunities who are also able to work engage constructively in political and social environments.

Institutional Readiness

Over time, the College of Business has been restructuring itself to elevate graduate education especially through collaborations with other colleges. In recent years, the College has successfully cultivated new resources from private donors, leading most prominently to the Ivory-Boyer Center for Real Estate. This \$3 million endowment further assures the readiness of the principal partners in this venture, the College of Business and the College of Architecture + Planning, to launch the MRED program successfully. In particular, no new faculty, staff, or facility resources are needed to offer the degree. Moreover, no new courses are needed.

Faculty

Between the two colleges, faculty involved in the degree program will bring considerable, nationally recognized talent to the program. The program will also enjoy the services of unusually qualified adjuncts. Summaries of key academic faculty are provided in the appendices. No additional faculty members are needed to support the program. The core program faculty will include.

Presidential Professor Arthur C. Nelson, Ph.D., FAICP
Presidential Chair Professor Hendrick Bessembinder, Ph.D
Professor Calvin Boardman, Ph.D
Professor Kristina Diekmann, Ph.D.
Professor Reid Ewing, Ph.D
Professor Harris Sondak, Ph.D
Associate Professor Michael Cooper, Ph.D
Associate Professor Thomas W. Sanchez, Ph.D
Associate Professor Robert Young, MBA, MS, PE
Assistant Professor Keith Bartholomew, J.D.
Adjunct Professor George “Buzz” Welch, MBA
Adjunct Professor Darrin Liddell, MBA, MAI, CCIM, MRICS

Supporting the core faculty are these other university faculty members:

Adjunct Professor Pamela Perlich, Ph.D. (Senior Research Economist, DESB)
Professor Brenda Case Scheer, M. Arch (Dean, cA+P)
Professor Jack Brittain, Ph.D. (Dean, DESB)

A review of faculty preparedness is noted in the table below.

Status	Tenure #	Contract #	Adjunct #
Number of faculty with Doctoral degrees	8	0	0
Number of faculty with Master’s degrees	2 ¹	0	2
Number of Other Faculty	3 ²	0	0

¹ Includes a faculty member with a J.D. and another with an MBA and MS.

² Includes two faculty members with Ph.Ds and another with an M.Arch.

The demands of the proposed degree on the faculty will be modest, as shown later.

Staff

Because of managerial efficiencies implemented by the College of Business and the College of Architecture + Planning over the past decade, moderate additional staff may be needed to support the program. This is reflected in the budget.

Library and Information Resources

University library resources are sufficient to support the MRED program.

Admission

We anticipate having a reasonably selective MRED program drawing students generally in the 60th percentile or higher of peer institutions based on GMAT and/or GRE scores. (MRED applicants may submit either.) The resume, letters of reference, statement of interest, and where feasible campus visits will be used to gauge suitability for completing the degree. The MRED Admissions Committee will carefully screen all applications. Minimum admissions requirements will match other Masters degrees within the participating schools.

Student Advisement

Student advisement will be consistent with the established advising practices within the colleges of Business and Architecture + Planning. Each MRED student will be advised by at least one faculty member. The respective graduate handbooks for each college will be amended to reflect the MRED degree.

Justification for Graduation Standards and Number of Credits

This is not applicable.

External Review and Accreditation

This is not applicable.

Projected Enrollment

The following table shows our enrollment expectations. We anticipate growing to 35 FTE students enrolled in the MRED program and 45 total FTE students including the graduate real estate certificate program proposed simultaneously with this.

Projected Graduate Real Estate Program Enrollment, First Five Years

Year	Total Students	Mean Student FTE to Mean Faculty FTE Ratio ¹
2009-10	10	1: 2.50
2010-11	20	1: 5.00
2011-12	30	1: 7.50
2012-13	40	1:10.00
2013-14	45	1:11.25

Note:

¹ Assumes 4.0 FTE faculty based on university faculty noted in Appendix C.

Expansion of Existing Program

This is not applicable.

SECTION III: Need

Program Need

Demand for graduate-level preparation specializing in real estate is growing. From a few programs a generation ago at such leading universities as Penn (Wharton School) and Wisconsin, the field of graduate real estate education has grown to about including such universities as Columbia, MIT, UC Berkeley, and Cornell. There are only two programs in the Mountain West: the University of Denver and Arizona State University. Given that most programs are affiliated with business schools, why is a separate graduate real estate degree needed in lieu of the traditional MBA? Simply, professional real estate practice has become sufficiently specialized as to require a regimen in core courses that is substantially different from the more general MBA. This proposal includes numerous letters from the real estate industry testifying to the need for this specialized degree. Specific elements of overall program are addressed next.

Labor Market Demand

In its *Occupational Outlook* edition for 2008-09, the Bureau of Labor projects demand for professionals in or related to real estate to grow from about 700,000 in 2006 to more than 800,000 by 2016, or about 10,000 jobs annually. This is a rate of growth that is about 50% higher than the nation's rate (under normal market conditions). Many of these jobs will be filled with people having undergraduate degrees. However, the fastest growing areas of real estate are in technical and analytical areas such as finance, market analysis, project management, and asset management. These areas require either several years of experience or graduate studies or a combination of both.

We have developed a conservative metric to gauge graduate real estate demand, being one masters degree graduate per \$1 billion in annual development. In normal years, this would result in about 1,200 graduates annually. With 20% of the nation's growth, demand in the Mountain West is estimated at about 200 annually, perhaps more.

Student Demand

Through surveys, the College of Business estimates that at least 20 undergraduate business students will want to enroll in a graduate real estate degree program if they had an opportunity. Informal surveys from key administrators in architecture, engineering, planning, and law programs indicate demand for at least another 10 students. Industry representatives indicate this demand would be equaled or exceeded by professionals already in the field who want and need formal graduate real estate education. Many of these industry representatives indicate they would support staff in pursuing this opportunity.

Supply

About 20 universities in North America offer graduate degrees in real estate. About an equal number offer a real estate specialization in two-year MBA and planning programs. Collectively, we estimate these programs graduate fewer than about 1,000 students annually, with more than 500 earning distinct one-year degrees in real estate. About a quarter of all graduates secure real estate positions outside the U.S. Review of the web sites for many of these programs indicates a very high level of success in placement. One reason may be that real estate graduates comprise only 10% of the annual increase in the demand for professional real estate and related jobs.

The production of graduates in the Mountain West is particularly lagging demand. With 20% of the nation's growth over the next generation occurring in the region, the demand for real estate professionals may exceed 2,000 annually. Yet, the only two programs in the Mountain West offering graduate degrees produce about 50 graduates annually. MBA programs produce roughly an equivalent number who have specialized in real estate, although such graduates usually have fewer real estate and related courses than graduates in distinct real estate graduate degrees. As development dynamics of the Mountain West are different from other parts of the nation it would seem prudent to meet the unique demands of the west by increasing the supply of western-based graduates.

Similar Programs

There are no similar programs in Utah.

Collaboration with and Impact on Other USHE Institutions

This is not applicable.

Benefits

Half a trillion dollars will be spent on development over the period 2005-2040. Assuring that this unprecedented level of development advances the quality of life for Utahans requires thoughtful, collaborate development practices. The challenges are real and the risks of failure are not trivial. The proposed MRED degree complements other significant university commitments that will make the University of Utah a leader in the Mountain West and the nation in achieving sustainable and resilient outcomes at the metropolitan scale.

From an institutional perspective, the Utah System of Higher Education will benefit from the proposed MRED degree program principally because it will help the state meet the demand for advanced education in real estate. It is likely that the program will elevate the stature of the university and the state in real estate and related fields, and will attract high quality students from outside the state to study here.

Numerous benefits across the university are anticipated. For one, MRED students will enhance enrollments in several graduate programs across campus including those in civil and environmental engineering, demography, architecture, planning, and geography among others. Some may choose to advance their graduate experience by earning certificates in demography, planning, or other fields.

Consistency with Institutional Mission

Like the University of Utah as a whole, the mission of the MRED program is to produce graduates who will *serve the people of Utah and the world through the discovery, creation and application of knowledge; through the dissemination of knowledge by teaching, publication ...; and through community engagement* (italicized language from the University Mission Statement). The core curriculum and matriculation benchmarks are designed to facilitate discovery and knowledge creation in the context of professional real estate development. The program is also designed to engagement through problem solving in public decision-making processes.

SECTION IV: Program and Student Assessment

Program Assessment

Goals

To provide society with a new generation of real estate professionals capable of performing rigorous analysis about real estate needs, trends, and opportunities who are also able to engage constructively in political and social environments.

To meet new educational, research and engagement needs associated with real estate development in the state, the region, and the nation.

Assessment

Students will be assessed through performance in regular course work as well as performance in the capstone exercise which will be designed to require integration of material they have learned to solve a real estate development challenge.

The program will be assessed in several ways. Real estate professionals will be engaged formally and informally to assess the skill level of graduates and to seek ways in which graduate education may be improved. Exit interviews with graduating students combined with 5-year career-based assessments will be used to gauge preparedness as well as emerging educational needs. Finally, periodic assessment will be performed as a college-wide function during the university's periodic review process.

Expected Standards of Performance

Students will be expected to have in depth knowledge of the following skills:

- Market analysis
- Net present value analysis
- Knowledge of information tools for real estate analysis
- Knowledge of project planning
- Knowledge of urban development methods

These skills will be assessed as part of regular course work. The capstone class will involve analysis of an industrial scale real estate project incorporating expected standards of performance. It will be judged by members of the real estate community. The formal assessment of this project determines a student's aptitude for the aforementioned skills.

Section V: Finance

Budget

The budget for this initiative is shown in the table below. (This includes students enrolled in the graduate real estate certificate program proposed simultaneously with this.)

Financial Analysis

	YR 1	YR 2	YR 3	YR 4	YR 5
Students					
Projected FTE					
Enrollment	10	20	30	40	45
Cost per FTE	\$ 3,340	\$ 1,785	\$ 1,754	\$ 1,389	\$ 1,287
Student/Faculty Ratio	1:2.5	1:5.0	1:7.5	1:10.0	1:11.25
Projected Headcount ¹	15	30	40	50	60
Projected Tuition					
Tuition/FTE ²	\$ 12,100	\$ 12,700	\$ 13,300	\$ 14,000	\$ 14,700
Gross Tuition	\$105,875	\$238,125	\$382,375	\$542,500	\$652,313
Tuition to Program ³	\$ 73,500	\$157,500	\$241,500	\$325,500	\$372,750
Expenses					
Wages ⁴	\$ 18,000	\$ 19,000	\$ 29,700	\$ 31,200	\$ 33,000
Benefits	\$ 5,400	\$ 5,700	\$ 8,910	\$ 9,360	\$ 9,900
Total Personnel	\$ 23,400	\$ 24,700	\$ 38,610	\$ 40,560	\$ 42,900
Faculty Supplement ⁵	\$	\$ 20,000	\$ 30,000	\$ 40,000	\$ 50,000
Current Expense	\$ 8,000	\$ 8,000	\$ 10,000	\$ 10,000	\$ 10,000
Travel	\$ 2,000	\$ 3,000	\$ 4,000	\$ 5,000	\$ 5,000
Capital					
Library					
Total Expense	\$ 33,400	\$ 35,700	\$ 82,610	\$ 95,560	\$107,900
Revenue					
Legislative	\$ -	\$ -	\$ -	\$ -	\$ -
Grants	\$ -	\$ -	\$ -	\$ -	\$ -
Donations	\$ -	\$ -	\$ -	\$ -	\$ -
Reallocation	\$ -	\$ -	\$ -	\$ -	\$ -
Tuition to Program	\$ 73,500	\$157,500	\$241,500	\$325,500	\$372,750
Fees	\$ -	\$ -	\$ -	\$ -	\$ -
Total Revenue	\$ 73,500	\$157,500	\$241,500	\$325,500	\$372,750

Financial Analysis (continued)

	YR1	YR 2	YR 3	YR 4	YR 5
Revenue-Expense	\$ 40,100	\$101,800	\$158,890	\$229,940	\$264,850
Revenue-Expense Ratio	2.20	2.83	2.92	3.41	3.45

Notes to Budget:

¹Minimum expectation.

²Tuition increases 5% per year with tuition differentials.

³Tuition to program tuition differential.

⁴0.5 FTE Staff in Years 1 and 2, 0.75 FTE Staff in years 3 to 5. Wages increase 5% per year.

⁵ Beginning in the second year additional sections of some courses will be added as needed; they will be taught by a combination of adjuncts and regular faculty.

Funding Sources

All funding will come through tuition.

Reallocation

Not applicable

Impact on Existing Budgets

There will be no impact on existing budgets.

Appendix A: Program Curriculum

All Program Courses

The table below sorts courses by core and restricted electives. Subject to approval, substitutions and variations to this list may be allowed provided educational goals are met, and a minimum of 39 credit hours are taken for the degree.

Course Prefix & Number	Title	Credit Hours
Core Foundations		
MGT 6050	Laying the Foundations of Teamwork	1.5
MGT 6850/6500	Decision Making for Deals and Disputes/Managerial Negotiation	1.5-3.0
FINAN 6740	Real Estate Principles	3.0
FINAN 6750	Survey of Real Estate Development	3.0
FINAN 6780	Real Estate Appraisal and Investing	3.0
FINAN 6760	Real Estate Finance	3.0
	<i>OR</i>	
REDV 6310	Urban Development Methods and Policies	3.0
REDV 6260	Land Use Law	3.0
REDV 6410	Site Planning and Entitlement Processes	3.0
REDV 6390	Sustainable Development	3.0
FINAN 6910	Special Study for Master's Students (capstone)	3.0
	Core foundation credits	27.0
	Field area credits	12.0
	Total credits	39.0

Field Area Study Minimum 12 credits from on one or a combination of field areas as approved, including relevant special topic, independent study, field seminar, directed readings, and related options. At least three credits geographic analysis and three credits in real estate analysis are required. Other courses not listed may be used subject to program approval.

Course Prefix & Number	Title	Credit Hours
<i>Finance and Real Estate Development</i>		
At least three credits from among these courses in geographic analysis		
GEOG 6000	Spatial Statistics	3.0
REDV 6450	GIS for Real Estate Development	3.0
At least three credits from among these courses in real estate analysis		
FCS 6120	Demographic Methods	3.0
GEOG 6240	Locational Analysis	3.0
REDV 6010	Urban Research	3.0
REDV 6020	Urban and Regional Analysis	3.0
No fewer than six field area credits from among		
FINAN 6240	Risk Management and Derivatives	3.0

FINAN 6360	Investments and Portfolio Management	3.0
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Course Prefix & Number	Title	Credit Hours
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Finance and Real Estate Development (continued)

FINAN 6570	Financial Distress and Corporate Restructuring	1.5
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FINAN 6660	Corporate Fraud in Finance	
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FINAN 6880	Bond Principles, Financial Institutions and the Economy	3.0
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The course not used to satisfy the core from among:

FINAN 6760	Real Estate Principles	3.0
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OR

REDV 6310	Urban Development Methods and Policies	3.0
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Planning and Real Estate Development

Three credits in geographic analysis

REDV 6450	GIS for Real Estate Development	3.0
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At least three credits from among these courses in real estate analysis

REDV 6010	Urban Research	3.0
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REDV 6020	Urban and Regional Analysis	3.0
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No fewer than six field area credits from among

CVEEN 6820	Project Scheduling	3.0
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CVEEN 6830	Project Management and Contract Administration	3.0
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ECON 6240	Urban Economics	3.0
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ECON 7300	Public Economics	3.0
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FCS 6120	Demographic Methods	3.0
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GEOG 6000	Spatial Statistics	3.0
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GEOG 6140	Methods in Geographic Information Systems	4.0
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GEOG 6150	Spatial Database Design for GIS	4.0
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GEOG 6220	Land Use Planning	3.0
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GEOG 6240	Locational Analysis	3.0
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REDV 6010	Urban Research	3.0
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REDV 6020	Urban and Regional Analysis	3.0
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URBPL 6040	Physical Plan Analysis	3.0
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URBPL 6220	Land Use Planning	3.0
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URBPL 6270	Metropolitan Regional Planning	3.0
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URBPL 6300	Housing and Community Development	3.0
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URBPL 6320	Metropolitan Fiscal Analysis	3.0
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URBPL 6330	Urban Growth Management	3.0
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URBPL 6340	Public/Private Interests in Land Development	3.0
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Architecture and Real Estate Development

At least three credits from among these courses in geographic analysis

GEOG 6000	Spatial Statistics	3.0
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REDV 6450	GIS for Real Estate Development	3.0
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Three credits in real estate analysis

ARCH 6570	Building Condition Assessment and Preservation Technology	3.0
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Course Prefix & Number	Title	Credit Hours
<i>Finance and Real Estate Development (continued)</i>		
No fewer than six field area credits from among		
ARCH 6230	Utah Architecture and Cities	3.0
ARCH 6235	American Suburban Development	3.0
ARCH 6500	Preservation Theory and Practice	3.0
ARCH 6581	"Main Street" Revitalization	3.0
ARCH 6701	Law for Architects	1.5
ARCH 6720	Project Finance and Economics	1.5
<i>Transportation and Real Estate Development</i>		
At least three credits from among these courses in geographic analysis		
CVEEN 6110	GIS Applications in Civil & Environmental Engineering	3.0
GEOG 6000	Spatial Statistics	3.0
GEOG 6140	Methods in GIS	4.0
GEOG 6150	Spatial Database Design for GIS	4.0
REDV 6450	GIS for Real Estate Development	3.0
At least three credits from among these courses in real estate analysis		
GEOG 6240	Locational Analysis	3.0
REDV 6010	Urban Research	3.0
REDV 6020	Urban and Regional Analysis	3.0
No fewer than six field area credits from among		
CVEEN 6540	Community Transportation	3.0
CVEEN 6560	Transportation II	3.0
CVEEN 7590	Public Transportation Systems	3.0
URBPL 6720	Community Transport	3.0
<i>Sustainability and Real Estate Development</i>		
At least three credits from among these courses in geographic analysis		
GEOG 6000	Spatial Statistics	3.0
GEOG 6140	Methods in GIS	4.0
GEOG 6150	Spatial Database Design for GIS	4.0
REDV 6450	GIS for Real Estate Development	3.0
At least three credits from among these courses in real estate analysis		
ARCH 6570	Building Condition Assessment and Preservation Technology	3.0
FCS 6120	Demographic Methods	3.0
GEOG 6240	Locational Analysis	3.0
REDV 6010	Urban Research	3.0
REDV 6020	Urban and Regional Analysis	3.0
No fewer than six field area credits from among		
ARCH 6352	Advanced Technology: Sustainable Design	3.0
CVEEN 6460	Sustainable Urban Water Engineering	3.0
URBPL 6030	Leadership and Public Participation	3.0
URBPL 6350	Public Lands and Environmental Policy	3.0

URBPL 6360	Environmental Planning Law and Policy	3.0
URBPL 6371	Complexity and Systems Thinking	3.0

New Courses to be Added in the Next Five Years

The following REDV courses will be created concurrent with the degree:

REDV 6010 Urban Research (3)

Meets with URBPL 6010. A hands-on course in quantitative skills used for urban analysis. Data sources, dataset development, descriptive statistics, correlation, trend analysis, modeling, and styles for graphical and written presentation. Planning applications of demographic and economic analysis including population projection, economic base analysis, and measures of characteristics and distribution.

REDV 6020 Urban and Regional Analysis (3)

Meets with URBPL 6020. The economic, demographic, and spatial interaction models used to analyze and develop alternative urban and regional plans including cohort-survival, input-output, shift-share, and gravity models. Model concepts, mathematics, design, logic, and limitations. Small-scale spreadsheet models are applied to analyze problems, interpret output and present results.

REDV 6310 Urban Development Methods and Policies (3)

Meets with URBPL 6310. This course reviews policies influencing urban development and redevelopment, acquaints students with basic development finance analytic techniques, identifies methods of leveraging private investment to achieve policy objectives, and assesses alternative urban development approaches.

REDV 6320 Land Use Law (3)

Meets with URBPL 6320. Case law analysis of common law, constitutional, statutory, and regulatory principles inherent in American land use planning and zoning.

REDV 6390 Sustainable Development (3)

Meets with URBPL 6390. Interdisciplinary approach to theories and applications of sustainability in a variety of planning contexts. Final segment focuses on specific action plans related to sustainability.

REDV6410 Site Planning and Entitlement Processes (3)

Meets with URBPL 6410. Review and analysis of development site design, plat map preparation, subdivision review and impact analysis, and entitlement processes.

REDV 6450 GIS for Real Estate Development (3)

Meets with URBPL 6450. This course acquaints students with the basic concepts of a geographic information system (GIS) and its analytic capabilities for real estate. In addition to grounding students in the principles and concepts of GIS technology, it will address applications to problems related to real estate. The course includes laboratory sessions for "hands-on" exposure to the ArcGIS software, its extensions, and other analytic tools.

REDV 6950 Independent Study (1 to 4)

Graduate directed reading or individual/group projects as approved through program procedures.

REDV 6954 Professional Planning Internship (1-4)

An internship of at least 36 hours per credit hour per term with a private real estate consultancy or development firm, or a public real estate development agency. Internships will be coordinated with a mentor from the host with oversight from a real estate faculty member. It will culminate in a written report on the internship along with an oral presentation of the internship experience.

REDV 6960 Special Topics (1 to 5)

This course number is used to accommodate one-time courses, occasional courses, and experimental courses. Students may take more than one Special Topic course for credit.

Appendix B: Program Schedule

Course Prefix & Number	Title	Credit Hours
<i>FIRST SEMESTER</i>		
<i>(Second Summer Semester)</i>		
MGT 6050	Laying the Foundations of Teamwork	1.5
FINAN 6740	Real Estate Principles	
3.0		
FINAN 6780	Real Estate Appraisal and Investing	3.0
FINAN 6910	Special Study for Master's Students (start capstone)	1.5
	<i>Total</i>	<i>9.0</i>
<i>SECOND SEMESTER</i>		
<i>(Fall Semester)</i>		
FINAN 6750	Survey of Real Estate Development	3.0
FINAN 6760	Real Estate Finance (If REDV 6310 not taken spring)	0.0-3.0
REDV 6260	Land Use Law	3.0
	Core Spatial Analysis Course (minimum credits)	0.0-3.0
	Core Real Estate Analysis Course (minimum credits)	0.0-3.0
	Field Area Course(s)	0.0-9.0
	<i>Total</i>	<i>15.0</i>
<i>THIRD SEMESTER</i>		
<i>(Spring Semester)</i>		
MGT 6500	Managerial Negotiation	1.5-3.0
REDV 6310	Urban Development Methods and Policy	
(If FINAN 6760 not taken fall)		0.0-3.0
REDV 6410	Site Planning	3.0
FINAN 6910	Special Study for Master's Students (capstone)	1.5
	Core Spatial Analysis Course (minimum credits)	0.0-3.0
	Core Real Estate Analysis Course (minimum credits)	0.0-3.0
	Field Area Course(s)	0.0-9.0
	<i>Total</i>	<i>15.0</i>
Total credits		39.0

Appendix C: Faculty

Core Real Estate Faculty

Presidential Professor

Arthur C. Nelson, Ph.D., FAICP

For the past thirty years, Presidential Professor Arthur C. Nelson has conducted pioneering research in growth management, urban containment, public facility finance, economic development, and metropolitan development patterns. Numerous organizations have sponsored Dr. Nelson's research such as the National Science Foundation; National Academy of Sciences; U.S. Departments of Housing and Urban Development (HUD), Commerce, and Transportation; Fannie Mae Foundation; American Planning Association; National Association of Realtors; and The Brookings Institution. His research and practice has led to the publication of nearly 20 books and more than 200 other scholarly and professional publications. In 2000-01, Dr. Nelson he served HUD as an expert on smart growth and growth management for the Clinton and Bush Administrations. In this capacity, he helped expand HUD's research scholarship programs and create HUD's doctoral fellowship program. Dr. Nelson has earned three teacher-of-the-year recognitions at two universities (Kansas State University and Georgia Tech twice), researcher of the year honors at a third (University of New Orleans), and scholar of the year honors at Virginia Tech. His books have shaped the field of impact fees, growth management, and urban containment. His papers have won national awards and international distinction. Dr. Nelson's students have won numerous awards including the national student project of the year award given by the American Institute of Certified Planners.

Presidential Chair Professor

Hendrik (Hank) Bessembinder, Ph.D. Professor of Finance

Professor Bessembinder is the A. Blaine Huntsman Presidential Chair in Finance at the David Eccles Business School of the University of Utah. He completed his Ph.D. in Finance at the University of Washington in 1986, and previously held faculty positions at the Goizueta Business School of Emory University, the Simon School of Business of the University of Rochester and at the Arizona State University College of Business. Hank's research and teaching interests include Financial Management, International Finance, Stock Markets, Foreign Exchange Markets, Energy Markets, Trading Costs, Trading Strategies, and Financial Risk Management. He is Managing Editor of the Journal of Financial and Quantitative Analysis, and Associate Editor of the Journal of Finance, the Journal of Financial Economics, and the Journal of Financial Markets. Hank has taught university courses in corporate finance, investments, financial markets, and financial engineering, at the masters and doctoral levels, having been nominated for and received teaching awards. He has been a consultant to the New York Stock Exchange, Goldman Sachs, Barclay's Global Investors, the United States Department of Justice, the United States Securities and Exchange Commission, the Federal Energy Regulatory Commission, the Commodities Futures Trading Commission, Analysis Group, and Cornerstone Research, among others

Professors

Reid Ewing, Ph.D., AICP

Professor Reid Ewing is associate editor of the *Journal of the American Planning Association*, columnist for *Planning* magazine, and Fellow of the Urban Land Institute. Formerly, he was Director of the Voorhees Transportation Center at Rutgers University, and earlier in his career, he served two terms in the Arizona legislature and worked on urban policy issues at the Congressional Budget Office. He holds master degrees in Engineering and City Planning from Harvard University and a Ph.D. in Transportation Systems and Urban Planning from the Massachusetts Institute of Technology. Dr. Ewing has authored books for the major planning and development organizations: *Developing Successful New Communities* for the Urban Land Institute; *Best Development Practices* and *Transportation and Land Use Innovations* for the American Planning Association; and *Traffic Calming State-of-the-Practice* for the Institute of Transportation Engineers. The two books for the American Planning Association made him APA's top selling author for many years. His study of sprawl and obesity received more national media coverage than any planning study before or since, and at one time, was the most widely cited academic paper in the Social Sciences, according to *Essential Science Indicators*. His most recent book, written for EPA and published by the Urban Land Institute, is *Growing Cooler: The Evidence on Urban Development and Climate Change*. Also due out this year, and published by the American Planning Association, is *National Traffic Calming Manual*. Dr. Ewing's prior work on smart growth development includes the U.S. Green Building Council's LEED-Neighborhood Development guidelines, the Institute of Transportation Engineers' *Recommended Practice for Context-Sensitive Thoroughfares*, the National Wildlife Federation's *Endangered by Sprawl*, and dozens of consulting projects around the United States.

Calvin Boardman, Ph.D., Ph.D., Professor of Finance

Calvin Boardman is the Kendall D. Garff Professor of Finance at the David Eccles School of Business at the University of Utah. He has been a member of the faculty since 1977, the year he earned his PhD in finance from the University of North Carolina at Chapel Hill. Prior to that time, he managed a hotel, was a business systems analyst for a chemical company in Texas, and earned a BA from Graceland College in Iowa and an MBA from the University of Texas at Arlington.

Kristina Diekmann, Ph.D., Professor of Management

Dr. Kristina A. Diekmann is a Professor of Management in the David Eccles School of Business at the University of Utah. Prior to joining the faculty at the University of Utah, she was an assistant professor at the University of Notre Dame. She received an A.B. degree in psychology from Harvard College and M.S. and Ph.D. degrees in organizational behavior from the Kellogg Graduate School of Management at Northwestern University. Prior to graduate school, she worked in investment banking at Merrill Lynch Capital Markets in New York City. Dr. Diekmann's research investigates how individuals behave in organizations, with a focus on negotiation, decision making, fairness, social perception, and impression management. She is interested in understanding the numerous errors in judgment individuals systematically make and how these errors result in negative outcomes. At the University of Utah, Dr. Diekmann teaches several MBA and executive MBA classes on negotiation, teams, and organizational behavior.

She has also taught numerous executive seminars on negotiation and teams at the University of Utah, University of Notre Dame, and Kellogg Graduate School of Management.

Harris Sondak, Ph.D., Professor of Management

Harris Sondak is Professor of Business Administration at the David Eccles School of Business and Adjunct Professor of Law at the S.J. Quinney College of Law at the University of Utah. He is a member of the Management Department and a David Eccles Faculty Scholar. Dr. Sondak is also Adjunct Professor of Business Administration at the Fuqua School of Business, Duke University. Dr. Sondak's research investigates the psychology of allocation decisions including two-party and multi-party negotiations and in market contexts, group process and decisions, and procedural justice and ethics. He has taught these subjects to executives, Ph.D. candidates, MBA students, and undergraduates from around the world. In 2008, Dr. Sondak was honored with the Distinguished Teaching Award by the University of Utah. Dr. Sondak received his B.A. in philosophy from the University of Colorado and his M.S. and Ph.D. in organizational behavior from Northwestern University. He was a member of the faculty of the Fuqua School of Business at Duke University from 1990-1995 and has been a visiting faculty member at Duke University, the International Institute for Management Development (IMD) in Lausanne, Switzerland, the Graduate School of Business, Stanford University, the Indian School of Business in Hyderabad, India, and the Kellogg School of Management, Northwestern University.

Associate Professors

Thomas W. Sanchez, Ph.D.

Associate Professor Tom Sanchez earned a bachelor's degree in Environmental Studies from UC Santa Barbara, a master of City and Regional Planning from Cal Poly, San Luis Obispo, and a PhD in City Planning from Georgia Tech. Between his master and doctoral studies he worked for a private real estate developer with residential projects in San Diego County and Orange County, CA. Upon completing his degree at Georgia Tech he taught at Iowa State University and has since been on the planning faculties of Portland State University and Virginia Tech before coming to the University of Utah. Dr. Sanchez conducts research in the areas of transportation, land use, environmental justice, and the social aspects of planning and policy. His research has been published in leading urban affairs and planning journals including the Journal of the American Planning Association, Housing Policy Debate, Urban Studies, Journal of Planning Education and Research, and the Journal of Urban Affairs. His article, The Connection between Public Transit and Employment, was selected for the best article of the year in 2000 by the Journal of the American Planning Association. In 2007, he co-authored two books, The Right to Transportation: Moving to Equity (with Marc Brenman) and The Social Impacts of Urban Containment (with Chris Nelson and Casey Dawkins). Along with serving as Chair of the Department of City & Metropolitan Planning, Dr. Sanchez is a nonresident senior fellow of the Brookings Institution, review editor for the Journal of the American Planning Association, an editorial advisory board member for *Housing Policy Debate*, and chair of the Transportation Research Board's Social and Economics Factors Committee.

Robert Young, MBA, MS, PE

Robert A. Young is associate professor and director of the historic preservation program, joined the College of Architecture + Planning in 1993. His specializes in stewardship of the built

environment which synthesizes historic preservation, adaptive reuse, sustainability, and community revitalization. He holds degrees from the Pennsylvania State University (MSAE, Energy Conservation in Environmental Systems), the University of Michigan (MBA, Strategic Planning), Eastern Michigan University (MS, Historic Preservation Planning) and the University of Maine (BSCE, Structural Engineering). He is the author of *Historic Preservation Technology* (Wiley 2008), which combines the traditional practices of preservation technology with sustainable design and was a finalist for the Association for Preservation Technology International's 2008 Lee Nelson Book Award for best new book in the field of preservation technology. He has published or presented numerous articles and papers on historic preservation and sustainability. He is a cofounder of and former chair of the board of trustees for the Traditional Building Skills Institute located at Snow College in Ephraim, UT. He is the University of Utah 2008 Distinguished Service Professor. His other honors and awards include a 2008 Presidential Citation from the Association for Preservation Technology International, the Utah Heritage Foundation Lucybeth Rampton Award for his contribution to the advancement of historic preservation in the state of Utah and nationally, a Utah Heritage Foundation award for the rehabilitation of the G. H. Schettler House, a Salt Lake City Merit Award for the restoration of the G. H. Schettler House. His service work includes serving on and/or chairing a variety boards for municipal agencies and non-profit organizations including: the Salt Lake City Historic Landmarks Commission, the Utah Heritage Foundation, the Salt Lake City Redevelopment Authority, and ASSIST, a community design center in Salt Lake City. He is a member of Phi Kappa Phi and was an inaugural archival scholar for the CRS Center for Leadership and Management in the Design and Construction Industry. He previously worked for Albert Kahn Associates, Blount Engineers, and the University of Michigan Energy Cost Avoidance Project, all in Michigan.

Michael Cooper, Ph.D., Ph.D., Associate Professor of Finance

Professor Cooper's primary research and teaching interests are in the area of investments. His current research is focused on equity returns predictability, related data-snooping issues, and the behavior of mutual fund investors. Professor Cooper's research has appeared in numerous academic journals including the Journal of Business, the Journal of Corporate Finance, the Journal of Finance, and The Review of Financial Studies. His research has won several awards, including the 2000 Barclays Global Investors Award from the European Finance Association. His research has been frequently covered in the popular press, with citations in the Wall Street Journal, the New York Times, the Washington Post, USA Today, the Financial Times, and many others.

Assistant Professors

Keith Bartholomew, J.D.

An environmental lawyer, Assistant Professor Bartholomew received his Juris Doctor from the University of Oregon and worked for ten years as a staff attorney for 1000 Friends of Oregon, a community development and land use planning advocacy organization in Portland. While at 1000 Friends, Professor Bartholomew was the director of "Making the Land Use, Transportation, Air Quality Connection" (LUTRAQ), a nationally recognized research program examining the interactive effects of community development patterns and travel behavioral patterns. Professor Bartholomew is also the former associate director of the Wallace Stegner Center for Land,

Resources and the Environment at the U of U's S.J. Quinney College of Law. Professor Bartholomew's current primary research focus is assessing the extent and nature of land use–transportation scenario planning in U.S. metropolitan areas. His other research work focuses on accessibility based transportation planning processes, legal issues inherent in transit-oriented development, public participation in transit facility design, the use of expert panels in transportation analysis, and the use of values-based communications in planning and urban design processes. Professor Bartholomew is a member of Oregon State Bar and the American Planning Association and is a Trustee for the Utah Transit Authority.

University of Utah Faculty Adjunct Professors

Jack Brittain, Ph.D.

Jack Brittain is the Vice President for Technology Venture Development and Dean of the David Eccles School of Business. He has served as the David Eccles School Dean since 1999. A faculty member for 15 years before becoming dean, Dean Brittain received two research awards from the Academy of Management and holds five teaching awards, including the University of Texas' Chancellor's Council Award. In his role as University Vice President, he has responsibility for all commercialization activities, including the Technology Commercialization Office and all the commercial-sponsored research at the University. His doctoral degree is in business from the University of California, Berkeley. Dr. Brittain's research focuses on strategic change in dynamic business environments; power, politics and strategic change; and large scale organizational change. His awards are numerous including the Best of State Medal for Education Administration and Best of State Statue Award for Education.

Pamela Perlich, Ph.D.

Pamela Perlich is a Senior Research Economist in the Bureau of Economic and Business Research at the University of Utah, joining BEBR in 2000. Before joining the BEBR, she worked for seven years in the Governor's Office of Planning and Budget concentrating on long-term economic and demographic projections. In addition, she is Professor Adjunct in the Department of City & Metropolitan Planning, College of Architecture + Planning. She has taught in the program since 1998. Current teaching responsibilities include URBPL 6010: Urban Research and URBPL 6020: Urban and Regional Analysis. Pamela specializes in Utah demographics, applied regional economic studies, and economic and demographic modeling. Dr. Perlich is a member of the Utah Population Estimates Committee, and is the University's primary contact with the Bureau of the Census through the State Data Center program. She serves on the Utah Council for Economic Education as the representative for the University of Utah and is a member of the Envision Utah Steering Committee. At the University she is a faculty in the Graduate Certificate in Demography and a member of the Center on Aging.

Brenda Case Scheer, M.Arch, AIA, AICP

Professor Brenda Case Scheer, AIA, AICP has been the Dean of the College of Architecture + Planning at the University of Utah since 2002. During her tenure, the College has been considerably transformed by the addition of the urban planning program. Her research specializations are the formal development of cities and urban design policy. She has published many articles and book chapters on design review, architecture, housing, and suburban form. Her books include *Suburban Form: an International Perspective*; *Design Review: Challenging Urban*

Aesthetic Control; and The Culture of Aesthetic Poverty. She is the winner of the prestigious Chicago Institute of Architecture and Urbanism Prize, which is awarded for writings on urban design. Dean Scheer is also chair of the board of directors of Artspace, Inc., a member of the Envision Utah steering committee, and on the editorial board of the Journal of the American Planning Association. Dean Scheer has a long record of professional practice including master planning, urban design and design guidelines as well as several award-winning architectural projects. She has also been involved in sustainable development projects in Thailand and Crete. Dean Scheer was previously a professor at the University of Cincinnati, where she taught for 12 years. Before entering her academic career, she was a Loeb Fellow at the Harvard Graduate School of Design, director of urban design at the City of Boston, and vice president of a real estate development company in Houston.

Adjunct Professors

George W. “Buzz” Welch, MBA

Buzz Welch is a Senior Vice President at JP Morgan Chase where he has been engaged in real estate industry capital markets for the past fifteen years. Specific to this assignment has been an opportunity to structure debt and private equity, credit syndications, and treasury solutions for national private and public real estate development companies. In addition, Mr. Welch continues to serve as a Commissioner, and past Chairman of the Salt Lake City Housing Authority, with specific responsibility for development and budget oversight. Service on the board begun in 2003 and continues through 2013. Mr. Welch has taken an active role at the DESB since 2004 when he began service on the National Advisory Board. In 2006, he developed and implemented a new course, Finance 5750 – Real Estate Development, which has been taught for the past three years with 117 students completing the course to date. In addition, in 2007 Mr. Welch took responsibility for retooling and teaching Finance 5760 – Real Estate Finance and Investment with 54 students completing the course over the past two years. Mr. Welch also serves as a founding board member on the newly formed DESB Boyer-Ivory Real Estate Center. Mr. Welch earned an MBA from DePaul University in 1986, and a BS degree in Speech Communication from the University of Utah in 1982.

Darrin W. Liddell, MBA, MAI, CCIM, MRICS

Actively engaged in the real estate industry since 1990, Darrin Liddell, an MAI, CCIM, and MRICS has spent his career assisting clients with commercial real estate valuation and consultation. He provides these services to a variety of commercial, private and government organizations. He is currently the Managing Director of Integra Realty Resources – Salt Lake City. As Managing Director, Mr. Liddell oversees real estate appraisal and consulting assignments to ensure the excellence of the firm's produced reports. By understanding the dynamics of a wide variety of real estate sectors, he helps prepare clients to make complex real estate decisions. He has diverse experience with other real estate types such as mixed-use, retail, multi-family, office, and industrial. He specializes in automobile dealerships and self storage properties. Mr. Liddell is engaged in teaching real estate courses at the University of Utah's David Eccles School of Business in the MBA and undergraduate programs. He has enjoyed teaching real estate principles, investment, and appraisal courses since 1994. His presentation skills are polished from his teaching and testimonial experience. Prior to receiving his MBA designation in 1993, Mr. Liddell received his Bachelor of Science Degree in 1991 from the

University of Utah. He majored in Finance and minored in Sociology. Darrin was invited into membership from the Appraisal Institute (MAI) in 1997, became a Certified Commercial Investment Member (CCIM) in 2001, and was awarded membership of the Royal Institute of Chartered Surveyors (MRICS) in 2007.