JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

VI. ACADEMIC ASSOCIATIONS

A. American Real Estate and Urban Economics Association (AREUEA)

8. "Redefining the Role of University Education in Real Estate and Urban Land Economics", Presented at AERUEA Annual Meeting, Hilton Hotel, Chicago, IL, December 29, 1974

Index

REDEFINING THE ROLE OF UNIVERSITY EDUCATION IN REAL ESTATE AND URBAN LAND ECONOMICS

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I. Some Introductory Comments

A contemporary curriculum for real estate in a school of business administration at a major university should be relevant to current needs of the student, to future needs of real estate industry and to the larger responsibilities of a university institution. A summary of the remarks which follow might be that a major by-product of the process of converting a freshman to a renaissance man inclined to real estate should be to re-educate university faculties to their responsbility to remain multi-disciplinary and advocates of inquiry rather than of conclusions. It will also be necessary to distinguish the university functions from the mission priorities ascribed to undergraduate and graduate business administration programs, with real estate and the business of real estate then defined as a subset of both the liberal arts and applied arts of enterprise management. In order to devote the majority of time to an operational real estate program, the effort to define the context of university responsibilities and business school missions will be overbrief and irritating to the deeper educational philosopher but hopefully the sins of omission will be judged on balance relative to the total essay.

II. The University Function and Land Related Topics

In my view a primary function of a major university should be to reduce the social conflicts which drain the system because of the misunderstandings and narrowness of viewpoint of individual vested interests. The basic technique of conflict resolution is by the cross-pollination of the natural and social

disciplines presumed possible in a family of scholars. This function notwithstanding, the fundamental problem today involving real estate education at the university level is the conditioning of every student within each specialty to prepare for and magnify the adversary nature of public land use policies vis-a-vis private decisions by a space producer or space consumer. The natural science schools teach that the enemy is industrial society; the planning schools teach that the developers are Philistines while business schools have tended to follow the lead of the real estate industry to the effect that public land use planners are naive, fascist, and without techniques to plan with equity for all affected by social transition. In most cases the university specialties deliver judgment upon one another rather than seeking a synthesis of enterprise objectives relative to the land. This effort at land use through adversary maneuvering and scorn for other viewpoints rapidly enters the real world as government and industry staff their opposing forces with young people preconditioned to the biases of their employers. The planning students are taught by former govrenment people to be anti-business while the business students are taught by former real estate people to beware of the planners with a paranoid feedback effect which now appears with increasing frequency in court rooms or in legislative maneuvering intended to thwart opponents rather than resolve problems.

III. The Pivotal Position of a School of Business Administration

At a university when so many departments in liberal arts and the environmental sciences are oriented to identifying problems and crying alarm, the School of Business offers the student approaches and methods of problem solving and administrative execution to achieve individual and broad social objectives. Enterprise management is concerned with the use of limited resources to satisfice profit, risk, and social purposes in conflict with one another within

a cash cycle economy and under a broad set of social constraints. Since the objectives of the administration process are frequently established by major events and value judgments beyond the control of business, it is necessary to sensitize the student to the correct interpretation of the broad social constraints of the business enterprise as well as the best administrative techniques of objective or problem solving administration. As John Beckett explains it, the form and behavior of any given enterprise represents a "negotiated consensus" between two general forces of creative power:

> "the power of the environment to dictate the form and the behavior of the organization, on the one hand, and the power of the organization to decide for itself what its conformation and behavior will be, on the other. To be mindful of the inevitable presence of both forces is to be able to penetrate the meaning of organization purpose--in every system, every organization."...(1)

Business schools around the country have a unique opportunity to offer the students the satisfaction of beginning with small administrative successes which are attainable from within all forms of cash cycle enterprise, public or private, now that students have good reason to suspect the effectiveness of grand crusades, no matter how intensive, and of macro-economic, no matter how well documented in theory.

Today's business school must continually relate the business organization to the external factors of natural and social ecology to understand and control the actions of the business. With knowledge of these constraints it is the mission of the school of administration to expose students to career opportunities at the undergraduate level, to provide the basic tools to participate in these areas of enterprise opportunity, and to sensitize them to the personal satisfactions avialable to the entrepreneurial ego in either public or private service. Hopefully the student will have sufficient tools in his special

(1) P. 180, Management Dynamics - The New Synthesis, John A. Beckett, McGraw-Hill, New York, 1971

interest to be of some immediate productive value to his employer and perhaps carry with him sufficient knowledge of advanced techniques that he will provide some educational input for the staff of his new employer.

It is the function of the graduate degree at the master's level to provide more intense preparation in the techniques and tools of business and some area of enterprise specialization so that the student can step into positions with some immediate responsibility for important business judgmental decisions. This mission presumes that the intensity of vicarious experience at the graduate level will mature the student at a rate faster than a year of experience at on-the-job training. Some graduate schools of business may favor the view that they are preparing the corporate leaders of tomorrow but there is great skepticism in this quarter that the wit, wisdom, and toughness of spirit required of executive leadership are acquired elements of character instilled in graduate school and correlated to educational elitism.

IV. Some Basic Mission Applications to Real Estate

Since many of the factors and objectives which affect the form and behavior of real estate enterprise lie beyond the province of typical business school concern, real estate business is so closely tied to land as a natural resource, engineered improvements and people as a social cluster, that it is important to begin with some definitions which suggest why a multi-disciplined approach is best centered in a School of Business rather than engineering, political science, or the environmental sciences of land and water. Some of the fundamental axioms which condition our definition of the role for real estate education are:

A. Real estate is defined as artificially delineated space with a fourth dimension of time referenced to a fixed point on the face of the earth. Such a definition covers everything form fields defined by pylons along the Nile to condominium plats or stationary space capsules. To this

space-time abstraction one can add any type of attribute required to house some form of cultural activity. Walls and floors, air conditioning, and esthetic forms simply create spatial elements which are the productive component of real estate. The voids and services, not the solids, are the economic product - a concept from the architectural disciplines.

B. The real estate process is the dynamic interface of people (cultural preference expressed through the body politic or individual market transactions), upon land, a finite natural resource and public stewardship, as modified by artifacts and services in a money system to produce units of space-time with a required set of attributes. These abstract forces can be reduced to specific decision makers - a space user (consumer), a space producer, and public representatives of political control agencies and service infrastructures. These tradeoff decisions will be determined in the socio-political fields in response to input from the natural sciences.

C. However, each of these three decision actors represent an enterprise, i.e., an organized undertaking. Most of these enterprises are cash-cycle enterprises constrained by a need for solvency, both short and long term.

D. Real estate enterprise (public or private) is the process of converting space-time needs defined by political action or consumer preference into corresponding money-time flows for the producer, consumer, and supporting public infrastructure, all of whom must match receipts and outlays day by day to remain solvent. The common denominator is the time line of real estate events and the interaction occurs since an outlay by the consumer (say for real estate taxes) is revenue for the community which becomes an outlay for services (such as street maintenance) which relieves the producer of ongoing expense responsibilities for the infrastructure supporting the single family home, etc.

E. A socially desirable equilibrium occurs when the real estate process serves the needs of individual consumers and the body politic within the constraint of land as a resource in a manner which permits the consumer, producer, and governmental cash cycle to achieve solvency including the cash costs of money.

Implicit in all of the above is that solvency of the total process is the critical decision constraint, not value as is currently taught in land economics and many real estate texts. Land is defined first as a natural resource and a major constraint on enterprise behavior and only secondarily as a commodity. Moreover, because the real estate problem solution must be so carefully fit to both site and community constraints, the reasoning must be inductive rather than deductive. Since value as a decision making mechanism is at least subjective to individual marginal cost of capital and deductive in theory it therefore does not provide a common denominator for synthesizing the necessary tradeoffs among consumer, producer, and the public stewardship of land resources. On the other hand cash flows related to a common time line for any real estate event does serve as a proxy and common denominator for the preferential ranking of alternatives by producer, consumer and government. Cash has the added advantage of perhaps being the only ultimate measure of private property since the public has first claim on productivity via the real estate tax, first claim on the prerogatives of decision making through the police powers, and the privilege of strict indemnity in cash (never in-kind) where eminent domain occurs to whatever residual private expectation the courts may identify. This logical sweep then leads to the Graaskamp constitutional corollary that equity among enterprises if freedom from bankrupcy or to turn a "Paineful" phrase "the power to bankrupt is the power to destroy." Therefore, cash interests must be elaborately safeguraded by due process.

Since that process involves intense application of cash cycle administration for both the consumer and the producer as well as government agencies, the School of Business is a logical center for a multi-disciplinary synthesis and a real estate department should be the catalyst. Real estate should be taught as a process of dynamic interactions, rather than functional and historical facts. The result should be a real estate entrepreneur with the creativity of Leonardo Da Vinci, the sensitivity for the natural world of John Muir, and the political humanity with cash management for profit of James Rouse. Of course the graduate student should be something more.

V. Converting Axioms and Premises to Curriculum

To discuss curriculum, it is necessary to wander back and forth between the traditional course approaches in real estate and urban land economics and the direction in which we should be heading to implement the ideal of mass produced real estate gurus.

Many years ago the School of Business at the University of Wisconsin erupted from the Department of Economics and carried with it the Urban Land Economics faculty. Ever since we have offered both real estate and urban land economics courses within the School of Business, almost as separate tracks with business students taking real estate type courses and non-business students from economics, planning, and political science gravitating to pure land economics courses. Only the Ph.D. students have found it necessary to give both subject areas equal time since their comprehensive exams were split equally between the two areas of interest.

We presently offer a BBA degree with a Real Estate major, a BS degree in Construction Administration which is a hybrid of civil engineering and business, an MBA in Urban Land Economics, or an MS in Real Estate Appraisal and Investment Analysis. Many of our courses are also required and cross

listed for degrees in Land Resources from our College of Agriculture and Life Sciences, or BA or MA degrees in Economics, or MS and Ph.D. degrees in Urban and Regional Planning. Admission to the School of Business, and therefore course eligibility, requires at least junior standing. During freshman and sophomore years, the student must accumulate a total of no less than 58 credits including 6 credits of accounting, 6 credits of economics, calculus, and statistics as well as a variety of selected electives in science, social science and the arts. Upon entrance to the School of Business the BBA student takes a required core of marketing, corporate finance, business organization, business law and risk management as a prelude to selection of a major. A real estate course is not required of all business students, but perhaps should be.

To reach the student who may be interested in a Real Estate major but who is a freshman-sophomore beyond our gentle grasp, we are making increasing use of the undergraduate catalog and bulletin to encourage these students to use their electives in a way which will provide a basis for interfacing real estate enterprise with land and society. Thus it is suggested that:

A. Science course electives include general geology, Wisconsin Geological History, Geology for Engineers, Soils, Geography, or Meteorology.
B. Social Study electives such as Social Disorganization, Urban Sociology, the Psychology of Space, or Architectural History, to name a few.
C. Engineering courses for non-engineers in Architectural Drafting, Science of Materials, Environmental Pollution Control Techniques, Surveying for Non-Engineers, and Soils for Land Use Planning.

The cornerstone of our real estate program is a course called Business 550 The Real Estate Process. It is required of all real estate majors, undergraduate or graduate, no matter what credits they may have transferred from elsewhere.

It is now cross-listed and a requirement for students in Landscape Architecture, Urban & Regional Planning, Agricultural Economics, and Economics and of the 175 students enrolled this past semester, less than half were business school students, and 20% dropped by the end of 6-weeks exams. The format calls for two hours of lecture and one hour of quiz section or lab each week. The latter are handled by our Ph.D. graduate students, who presently represent undergraduate backgrounds in Environment, Agricultural Economics, Mechanical Engineering for Wood-Fabrication, as well as an undergraduate Business major. At registration we force the distribution of various student backgrounds among all quiz sections so far as possible so planners must work with business students and business students must listen to landscape architects, everyone must listen to the civil engineers, and so on. The background of our T.A.'s gives the non-business student some initial, if misplaced, comfort of having friends in high places in the foreigh environment of the Business School. Before that rapport vanishes, we teach after tax cash flow for the first six weeks, with the lectures stressing first the general format of a rental property in an urban setting and then the content of each major receipt or outlay to be forecast, such as rents, expenses, real estate taxes, mortgage payments, and basic income tax. Given some cash flows, present value concepts are provided along with certain basic financial tests of risk and yield. In the quiz sections the students do problems, moving from simple present value to a full cash flow and each student must do a 10-year after tax cash flow problem on a special accounting paper to be graded. Then we show the students, at risk of some manifestation of discontent, how to do it in thirty seconds by computer.

Once the student understands a basic synthesis of cash flow projections, it is then possible to begin the course in terms of examining various issues which are significant to urban land economics and the real estate process. The alternative strategies of the space user, the space producer, and

intervening government agencies are examined from the point of view as to how they intentionally or unintentionally manipulate cash flows and the risk of variance in projections to produce certain results. Among the issues examined in this framework are low priced housing, urban energy, pollution, and transit conditions affecting operating expenses, urban cash flows relative to sprawl, political fragmentation, tax policies, federal programs under HUD, the recycling of old buildings, city redevelopment and land use succession, and finally Columbia, Maryland, as an attempt to synthesize private enterprise, public infrastructure, and land limitations. The strategic thrust of this course is to reach the other disciplines and to provide a balanced statement of the issues, demonstrating the input of each university discipline and the consequences to cash flow equilibrium of any extremist position to the delicate fabric of urban enterprise equilibrium and social heterogeneity. While the details are important, the emphasis is on the relationship of problem solving to the attributes of each element involved.

The practical thrust of the course is achieved by selecting three or four sites each semester in the campus area and by having student teams of no more than two select one and conduct an initial feasibility study. All the departments in city hall cooperate with us by having available a file of data on selected sites in their respective specialties for students visiting city hall. Students must do a title search for 10 or 15 years back from the present, map land use patterns in the area immediate to their selected site, propose a land use compatible with zoning and some market need identified by the student. They must process a proforma budget and operating statement on the computer cash flow model and explain the significance of the results and alternatives which might produce a better result. They are not graded on profit or loss but rather on how well they have identified and responded to all of the constraints which would impose on an economic decision for site improvement.

Course instruction is graded each semester by computer analysis of student grade sheets and the primary grievance is that the course represents 5 credits of work for 3 credits for the undergraduate and 2 credits for the graduate student. Nevertheless enrollments continue to grow, particularly among non-business students.

VI. The Wisconsin Program in Transition

Our approach to real estate as a series of interacting subsystems suggests that the ideal curriculum should parallel architectural design courses with a series of workshops designed to unravel with increasing sophistication the interplay between the physical, financial, and social dimensions of real estate. The undergraduate program might offer majors a senior level course of five credits each semester in which a teaching team of design, finance, public finance, and social economist types unraveled no more than three types of projects, say a residential PUD, a shopping center, and an office building for a user-owner. Intense readings and lecture would prepare students for case studies where their feasibility solutions would be judged by a jury of critics since the software of real estate is really a pre-architectural programming step - a design problem nevertheless.

Unfortunately we still follow the functional divisions which typify real estate education. Our undergraduate course requirements and course descriptions are provided in appendix A and appendix B does the same for the graduate student. Our course in real estate finance is taken almost entirely by real estate majors. It begins with the premise that a real estate transaction is the purchase of a set of assumptions about the future by two parties with vastly different objectives; it moves from the simplest mortgage transaction through the hierarchy of portfolio, institution, and capital markets to explore arrangements and contractural networks which maintain a delicate balance between creative money management and risk management of

the variance implicit in all assumptions. It is a strange mixture of financial mechanics and one-on-one negotiation. All students are required to solve a shopping center finance problem with an advanced cash flow model.

Ironically once we move beyond this course required of all majors, to residential and commercial development we have more flexibility, move closer to our ideal, and attract far more students from related non-business disciplines. We begin with merchandising research, space psychology, environmental impact analysis, and measurement of social and architectural success before playing the trade-off game between the physical plan and the cash plan. The courses are now being taught by a young professor with degrees in architecture, city planning, and soon a Ph.D. which is strong in finance. Next fall we will combine registration in residential development with registration in landscape architecture, senior design course and for 6-8 credits the students will create a design solution for 40 acres on the edge of Madison. The interaction of design and business students may permit better realization of our idealized process approach.

We have a new real estate law course which brushes aside the brokers manual in 5 weeks and then dwells on difficult issues of equity in residential landlord-tenant statutes and litigation, evolving land use control law and the unique legal ties among developer-architect-contractor. The instructor is a Madison attorney serving as a visiting lecturer, a Harvard Law School graduate with a degree in economics who can defend public priorities very well. As a result he is drawing students from landscape architecture, urban and regional planning, as well as construction engineering.

At the same time we are pushing students into tool courses outside the School of Business in areas such as soils, surveying, air photo interpretation, remote sensing of the environment, survey research, principles of public finance, urban transport systems, the mechanics of pollution control, principles

of urban planning and so on. Even freshmen courses in architectural graphics, landscape architecture and urban politics are utilized by juniors and seniors lacking particular skills. By now perhaps you have detected that we are using the real estate process to quietly proselyte for the sanity and equity of cash solvency synthesis on the way to social objectives, either in our own courses or by exporting our real estate majors to the other disciplines.

The toughest education problem of all, in our opinion is making students see the relevance of classic urban land economics to real estate. First there is the problem of moving from the theoretical modeling to operational decision making for the real estate entrepreneur and secondly there is the problem of forecasting the impact of a private real estate decision on public economics and priorities. The first glimmer of departmental change in these areas was accomplished when a number of graduate students built a fairly elaborate financial impact model which generates municipal cash flows and developer cash flows simultaneously from the same set of assumptions about product mix, price, absorption rates and consumer profiles. While we have always been strong in the institutional economics of land, this year we began to build an undergraduate core of urban land economics courses from an econometrics point of view. We found a Ph.D. in resource economics from Claremont with an undergraduate major in forestry and an M.B.A. in capital budgeting, the latter done on computer for an aerospace firm for several years. In the basic course in urban land economics students are introduced to the literature and spend much time on problems involving census tapes for Dane County, a simple Dane County growth model and basic time series analysis in order to make specific sub-regional forecasts of retail, housing, and land absorption requirements. The public sector course has been rebuilt for the spring semester to explore how the mechanics of various public land use allocation mechanisms such as special real estate tax abatements and rollbacks, zoning bonuses and

penalties, zoning and compatability rules, transferable development rights, grants in aid and non-market loans, to name a few, all have positive or negative impacts on cash flows of the producer, consumer, and the public coffers. We are not sure at this time how successful we may be in learning how to bridge the operational gap between regional economics and specific enterprise payoffs. Academic land economists are often more interested in problem description than in techniques of modeling the process to answer real business and public questions in a hurry and for a budget. We are not sure that one can teach such skills and be acceptable to the academics.

Finally we teach an undergraduate course in real estate appraisal, following carefully the first two basic courses of the professional appraisal societies (through income appraisal) and encouraging the students to write the Society of Real Estate Appraisers first two professional exams. The students do a basic form for residential appraisal and a full narrative income property appraisal. It is a required prerequisite of the graduate program but advanced appraisal theory is reserved for lack of time to the graduate program.

The MS degree program has done better at integrating real estate instruction rather than following the customary functional approach and continues our strategy of outreach into the other disciplines.

For the undergraduate with a non-business major, he faces a 2-year program with a year of core courses in business including The Real Estate Process-550 and our undergraduate appraisal course before reaching the MS level courses. The student with an undergraduate business major can with a superb effort, finish the MS degree in two semesters and a summer. At the core of the MS program is an intermediate course in statistics and an advanced course in marketing research methods and applications taught by our marketing department. There is a course in real estate equity investment theory and cases and a

course in contemporary appraisal practice which has the students studying and applying Ratcliff, Wendt, Dilmore, and Gustaphson, to name a few. In the spring semester there is a seminar in which the student will do a professional appraisal or feasibility study in his field on live projects, working in small teams, generally for a small fee. The students are also required to take a course involving real estate law in the Law School where they "mix it up" with senior law students in Land Use Control or Real Estate Transactions or Pollution Control Law. Our students more than hold their own with the narrow-minded but crusading lawyers and succeed very well in peppering those courses with ideas that would never have penetrated the walls of the Law School otherwise. Each MS student is also required to take the first course in macro urban land economics. After this core program, the student has 15 credits remaining as electives, three of which must be in business outside his major (a graduate business studies committee rule) and with these, the student is encouraged to go into some depth in an area which will advance his career ambitions. Developers look at civil engineering and land planning courses, marketing people look at design and survey research courses, while the finance types often choose from accounting and investment management courses within the School of Business. The advisor to these students "gently" prods them into areas outside the School of Business which will be strange to them such as Remote Sensing of the Environment, Computer Mapping in Geography, or Architectural History. The ideal objective is a Renaissance Man with a real estate major who thinks in terms of process, in order to accommodate in the future the accelerating changes in technology and law of real estate. The overall objective is to project a lifelong realization that real estate is not a number-crunching exercise to be taught by retreads from the finance department but is a series of problem solving opportunities which interface practical tools of applied social science with every major issue of our time

in terms of the conservation of both our people and our natural resources. Another objective is to teach the student to enjoy the creativity of mundane things involved in making brick and mortar work as a machine, as a social structure, and as a small business contained on each and every parcel. feel very strongly that the majority of responsibility for our urban mistakes can be attributed to the planning generalist who does not understand each micro-enterprise he would control and the narrow financial specialtists who have no understanding of the physical and social condequences of leverage. The real estate student must be taught to see when he looks at a crowd, a structure, a piece of ground or a financial statement and that involves a great many details not found in general business training.

VII. The Future Real Estate Curriculum

Real estate as a special application of a cash cycle enterprise is returning to legitimacy as a field of interest appropriate to the School of Business. However real estate enterprise manufactures the physical terrarium of our society over time and such enterprise, public or private, is the ultimate client for all physical and environmental designers. Perhaps a contemporary real estate program could have its home base in either a School of Physical Design or a School of Business Administration, so long as it was permitted to be inductive, multi-disciplinary, and problem solving. Design school faculty criteria, classroom formats, and text materials all have much to offer to real estate education.

The fundamental problem in real estate education as described above is the lack of faculty who would feel comfortable in an open-ended non-specific discipline whose only political clout was to create FTE counts for the budgets of other departments. Persons who can teach and direct such programs can make more money in the industry than any business school is likely to provide

as a salary; academics without the discipline of achieving solutions within real constraints ignore problem solving in favor of institutional description and normative abstractions. Design schools may be more willing to bring successful practitioners onto their staffs than those schools which value a Ph.D. more than a record of successful problem solving. One could predict a gradual transfer of real estate curriculum to the schools of physical design, if only so they can better observe and condition their future clients.

The design school format of intermingling the work stations of various student levels in a large home drafting room encourages the self-educating, interaction of all students which occurs only among small cliques in Business Schools. The visual communication of design school show-and-tell areas is appropriate to real estate education as is the provision of outside juries to critique student team projects. Ultimately mutual respect would be established between the design disciplines and the management disciplines. At the very least I predict that real estate textbooks will soon take advantage of design techniques to provide graphic process identification through flow charting, scoring, and impressionistic and playful droodles. Certainly the language of systems engineering will condition the economic and physical flows which interact in real estate and perhaps someday we will have the mylar overlays for site analysis which presently are found in the biological and medical textbooks. The real danger for schools of design is the fact that their students may learn too early that master builder in the twentieth century is the enterprise-developer and not the classic architect, an awareness which runs counter to the current dreams of the American Institute of Architects who are presently publishing some of the better real estate primers.

Once real estate educators have demonstrated the relevance of their subject matter to students and to the industry looking for young talent with sophistication as well as enthusiasm, enrollment increases and the FTE budget will permit real estate educators to bargain for adequate budgets and academic legitimacy in either business or the design arts. Ironically such pragmatism will bring about a return to university ideals of multi-disciplinary exchange and communication.

REAL ESTATE AND URBAN LAND ECONOMICS

The real estate product is a singular combination of land as a public resource, hardware and services as a business enterprise, and the consumer both as an individual and as a social system. The business of providing the hardware and service elements in a manner to conserve the land and respect the social context is a challenging business administration major. College graduates are in demand for professional service in property development and management, mortgage lending, investment analysis, appraising, brokerage, and corporate administration. Government activities in housing, industrial development, and real estate finance present other opportunities. An understanding of real estate matters is essential to any business manager since he must make decisions in regard to site selection, financing, leasing, and development of facilities to house the business operation.

To major in this field a student must take Bus. 550 Urban land economics and Bus. 551 Real estate finance, plus three courses from the following:

	Credits
Bus. 332—Problems in real estate and casualty insurance law	2
Bus. 478—Urban transport economics	3
Bus. 552—Urban land economics (use location, and succession)	3
Bus. 553—Urban land economics (housing)	3
Bus. 554—Residential development and management	3
Bus. 555—Commercial property development and management	3
Bus. 556—Valuation of real estate	3
Bus. 557—Urban economics (structure and dynamics)	3
Bus. 650—Urban land economics (public policy)	3
Bus. 651—Urban economics (public sector)	3

In addition, the student is strongly urged to select electives outside the business-economics core from among the following courses which will provide greater professional awareness and more sophisticated tools:

	Credits
Soils 315—Soils for land use planning	3
Geol. 105—Geology for engineers	3
CEE 450—Surveying for nonengineers	3
Art Hist. 321—Development of modern architecture	3
Art Hist. 323—A history of American architecture	3
Urb. & Rpl. 305—Introduction to the city	4
IES 300—Environmental resources	3
Gen. Engr. 160—Architectural *graphics*	3

REAL ESTATE AND URBAN LAND ECONOMICS

550 Urban Land Economics (Principles). I, II; 3 cr. Decision-making processes for manufacture, marketing, management, and financing of real estate space. Survey of institutional context, economics of urbanization, historical pattern and structure of city growth, and public policy issues regarding urban environment and business management. Prereq: Econ. 101 or 103 and Jr st.

551 Real Estate Finance. II; 3 cr. Mechanisms of real estate finance, sources of funds, loan contracts, principles of mortgage risk analysis, role of governmental agencies. Prereq: Bus. 550.

552 Urban Land Economics (Use Location and Succession). II; 3 cr. Analysis of location theories of major urban land use classes; urban land use succession theory. Prereq: Bus. 550 or cons instr.

553 Urban Land Economics (Housing). I; 3 cr. Economic principles and problems of housing demand; supply and market analysis functioning in an institutional setting of private practices and governmental policies of control and assistance. Prereq: Bus. 550 or cons instr.

554 Residential Property Development and Management. I; 3 cr. The business of creating housing including strategy, market and merchandising trends, legal and political constraints, site selection, social implications, design and construction procedures, and financial analysis and control for single family subdivisions, multi-family projects and new towns; case studies will emphasize rental property management and federally subsidized projects for lower income families. Prereq: Bus. 550 or 705.

555 Commercial Property Development and Management. II; 3 cr. The business of creating industrial real estate, office space, shopping centers, and recreation facilities including strategy and feasibility analysis, functional design and construction factors, and financial analysis. Special emphasis given negotiation of leases from the viewpoint of both tenant and landlord. Prereq: Bus. 550 or 705.

556 Valuation of Real Estate. I; 3 cr. Economic theories of value applied to real estate; valuation as a guide to business decisions; real estate market which affects value; valuation methods, analysis of evidences of value; appraising residential and income properties. Prereq: Bus. 550.

557 Urban Economics (Structure and Dynamics). I; 3 cr. Nature and structure of urban economies; location of economic activity; economic analysis in the urban framework; forecasting economic functions and activity; principles of urban economic development. Prereq: Bus. 550 or cons instr.

650 Urban Land Economics (Public Policy). II; 3 cr. Urban land policy as expressed in the institutional devices and practices which mold economic decisions and actions relative to land use in metropolitan areas; zoning, comprehensive plans, official maps, building codes, subdivision regulations, taxation, and urban renewal legislation treated with an economic and planning emphasis. Prereq: Bus. 550 or cons instr.

651 Urban Economics: Public Sector. II; 3 cr. Identification and economic analysis of the service policies, problems, and financial systems of American municipal and urban county government with emphasis on the relation of public sector policies to activity in the local private sector. Prereq: Bus. 557 or cons instr.

Foundation Courses for M.S. Programs

Course	Credits
Economics	
103 Principles of Economics (Macro)	2
104 Principles of Economics (Micro)	2
Business	
700 Financial & Administrative Accounting	2
701 Corporation Finance	3
702 Marketing	3
703 Organization & Management Processes	3
704 Business Statistics	2
708 Behavioral Science for Business or Psych. 530 Introductory Social Psychology	3
709 Legal Aspects of Business	2
710 Managerial Accounting	2
Computer Sciences	
132 Introduction to Computing Machines or	
302 Algebraic Language Programming	2
Mathematics	
211-212 Calculus & Related Topics or	
221 Calculus & Analytic Geometry or	
Bus. 714 Mathematical Analysis for Business	3
Total	**29**

Real Estate Analysis

There is a pressing need for professional education at the graduate level in preparation for careers in the rapidly expanding field of real estate appraisal and investment analysis. The future of our cities is dependent upon sound real estate investment decisions in both the private and public sectors. Thus, the appraiser and the investment counselor perform a critical function in our economy.

Graduates with a Master of Science degree in Real Estate Appraisal and Investment Analysis are in demand from nationally known real estate consulting firms, lending institutions, appraisal organizations, major industrial corporations, and public agencies.

The required business courses are:

Course	Credits
557 Urban Economics: Structure and Dynamics	3
741 Intermediate Business Statistics, or,	
777 Advanced Statistical Methods I	3
820 Marketing Research	2
850 Real Estate Equity Investment	3
856-57 Seminar-Urban Land Economics M.B.A. & M.S.	4
Law School elective required	3

The seminars cover research and extensive reading in advanced urban land economics theory, advanced appraisal theory, real estate market research and forecasting, problems in valuation, and real estate investment analysis.

Real estate requires understanding in multiple disciplines. Elective credits will be encouraged in civil engineering, planning, law, sociology, as well as finance and management science.

Students entering after June 1974 will be required to have acceptable course experience at a basic level in appraisal, soils, surveying, architectural history, and resource conservation.

Real Estate and Urban Land Economics

FOUNDATION COURSE
(Graduate standing required.)

705 Principles of Urban Land Economics. I, II; 2 cr. Institutional background of real property; economics of urbanization, supply and demand; building industry, real estate credit, cyclical fluctuation, rents and prices, real estate market analysis; city growth, structure, and planning, land use control, urban redevelopment and real estate investment analysis. Prereq: A basic course in Econ.

GRADUATE LEVEL COURSES
(Graduate standing required.)

850 Real Estate Equity Investment. I; 3 Fitting investment strategy to context of physical property, leverage, form of ownership, income tax, and management alternatives. Review of literature and ca: problem analysis emphasizing cash flow projection, yield, and risk projection for sole proprietorship, partnership, trust, and corporate real estate enterprises. Prereq: Bus. 550 or 706 and cons instr. For non-real estate majors.

851 Real Estate Feasibility Research. II; 2 cr. Problems in real estate market research related to choosing marketing targets suitable to legal, political, technical, ethical, aesthetic and strategic constraints of site and investor. Analysis of present field methods, reformulation of present theory, and field problems. Prere Bus. 550, 551, 554.

856-57 Seminar in Urban Land Economics and Valuation (M.B.A.—M.S.). Yr; 2 cr. Historical and comparative studies in dept of the development of valuation theory an methodology including the market simulation approach to predicting the most probable selling price; case studies and field appraisals dealing with the more com plex valuation situations. Prereq: Cons instr.

858-59 Seminar in Urban Land Economics —Ph.D. Yr; 2 cr. Philosophic basis of research thinking and technique; case applications to the problems of urban land economics. Prereq: Two sems of graduate work. Ph.D. or 2nd year master's candidates.