



REAL*4820 Real Estate Appraisal
Fall 2021
0.5 Credits

General Course Information

Instructor:	Rogier Holtermans
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<i>Office Location</i>	MINS 209
<i>Office Hours</i>	By appointment only
<i>Department/School</i>	Marketing and Consumer Studies
Teaching Assistant:	Gregory Hoogers
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<i>Office Location</i>	MINS 206A
<i>Office Hours</i>	TBA
Class Schedule:	Mondays and Wednesdays 11:30 A.M. – 12:50 P.M., MCKN Room 116
Pre-requisites:	1 of CIS*1200, CIS*1500, MCS*2020, and 1 of ACCT*2230, ECON*2560, FIN*2000, REAL*2820
Restrictions:	This is a Priority Access Course. Some restrictions may apply during some time periods. Please contact the department for more information.

Course Description

This course deals with the basic principles involved in valuing real estate. The market comparison, cost and income approaches of appraisal are covered. The major emphasis in the course is on using discounted cash flow projections to value income-producing real estate. The term project involves the use of a spreadsheet program to estimate property value for a property chosen by the student. While valuation of single-family homes is covered, the main emphasis is on investment real estate.

Course Learning Outcomes

Upon successfully completing this course, you will:

1. Understand the judgmental aspects to placing value on a real estate asset and why real estate is more difficult to value than other asset types.
2. Have learned and applied the methods used by the appraisal profession to assess value of different types of (investment) real estate.
3. Learned and applied the Discounted Cash Flow approach to assessing cash flow and value of real estate assets.
4. Be able to calculate the tax implications of investment in real estate.
5. Have strengthened your professional communication skills, including business writing and idea pitching.

Summary of Course Content and Materials

The course will use a combination of lectures related to the appraisal process and techniques as well as appraisal and investment exercises, discussion, and student group projects and presentations. The structure of this course requires significant individual study and preparation outside of class, especially with respect to the homework. The Excel skills taught in this class will also be requisite to succeed in Real Estate Development Project (REAL*4830) – as well as in many careers in real estate. **Thorough and consistent preparation and participation are necessary to succeed in this class.**

Class	Date	Class Material	Assigned	Assignment Due
1	9/13	Syllabus Review: Intro to Appraisal	REIAAIA 1.1-1.22	Form Groups
2	9/15	IA I: Intro to Investment Analysis, Rent Roll, Year 1 NOI	REIAAIA 2.1-2.5, 2.20-2.24, 2.31-2.36	
3	9/20	Market Analysis	Article CourseLink	
4	9/22	IA II: Direct Capitalization Underwriting	REIAAIA 5.1-5.12	Quiz A
5	9/27	Market Analysis Case Studies	<i>Sit with your group</i>	
6	9/29	IA III: TVM Review, Intro to DCF	REIAAIA 2.25-2.30, 5.12-5.14	Quiz B
7	10/4	Guest Lecture – David DeVries, Antec Appraisal Group		Project Proposal
8	10/6	IA IV: Return Measures	REIAAIA 8.1-8.10	Quiz C
	10/11	NO CLASS – Thanksgiving		
9	10/13	Sale Comparison Approach	Textbook excerpt	Quiz D
10	10/18	Cost Approach, Highest and Best Use	AI Common Errors and Issues	
11	10/20	IA V: Cost and Sale Comparison Approaches Exercise	<i>Midterm released</i>	
12	10/25	Session to Work on Midterm (Q&A)		
13	10/27	Mass Appraisal	<i>Mass Appraisal Assignment</i> Textbook excerpt	Midterm
14	11/1	IA VI: CCA		
15	11/3	Guest Lecture – Nils Kok, Chief Economist Geophy	JPM Article	
16	11/8	Midterm Evaluation (Q&A)		Mass Appraisal Assignment
17	11/10	IA VII: ATER	REIAAIA 7.8-7.9, 7.21-7.26	Quiz E
18	11/15	Mass Appraisal Case Studies	<i>Sit with your group</i>	
19	11/17	IA VIII: CCA & ATER Exercise		Quiz F
20	11/22	Team Presentations		
21	11/24	Team Presentations		
22	11/29	Team Presentations		
23	12/1	Team Presentations		
24	12/3	TBA		

Note: The schedule of learning activities may require modification from time to time. Any changes will be announced in class and/or on CourseLink.

Additional important dates

1. Review Class will be scheduled close to the final exam (TBA)
2. Final Exam is scheduled on December 11, 08:30 A.M. – 10:30 A.M., location TBA

Quizzes

Each Wednesday, we will be working through an example asset in class as we cover real estate financial and investment analysis, building an Excel spreadsheet for use in the project over the semester. Then, similar content will be assigned for a different property. Frequently, a CourseLink quiz will be due by the beginning of the following WEDNESDAY class. This quiz is actually just an assignment (so it may be completed open book), and the purpose is to check if you are successfully able to apply the analysis techniques learned in class to the assigned asset on your own. Of the six quizzes, the lowest score will be dropped in calculating your Quiz grade.

Mass Appraisal Assignment

Based on the information provided in “Mass Appraisal 2021.xlsx” your group is asked to assess the value of a multifamily building. Each group should approximate the market value of the building corresponding to their group number using a hedonic regression. As will be discussed and explained in the mass appraisal lecture, a hedonic regression utilizes the observable characteristics of a building to explain transaction price. Subsequently, the coefficients from the valuation model can be used to approximate market value of the object of interest.

Key information on the asset to value is summarized in “Buildings to Value.” Information on multifamily transactions across different U.S. markets is specified in “Dataset.” Keep in mind that empty cells reflect missing information, and do not imply that variable to be zero.

Considerations:

- Evaluate the available pool of transactions with respect to the market in which the asset of interest is located;
- Transform variables, and think about how best to utilize the variables (e.g. continuous to categorical);
- Include descriptive statistics and correlation matrices to summarize and analyze the data and use them to determine the optimal valuation model;
- Incorporate the time trend for your market to correct for differences in time of sale between the available pool of transactions and the asset of interest;
- Reflect on which characteristics determine value and should be included in your model (e.g. for which variables do you have sufficient or complete information?);
- Evaluate model strength, reflecting on which variation of the developed valuation models explains building value best.

Assignment:

Your group is expected to include the above mentioned considerations in your approach and summarize the results in a written report. The report and spreadsheet you used for your analysis should be submitted to CourseLink by 11:59 P.M. on the due date listed in the Course Schedule. The report should be 3-5 double-spaced pages of text, plus charts and tables as required (Times New Roman 12-point font with 1 inch margins). Number the pages in your report and label/reference all exhibits. This assignment constitutes group work and should be completed in groups of three students (for more details on group formation, please see the term project description below). **Reference your group number on all submitted materials.**

Note:

In order to run a regression model in Microsoft Excel you will want to install the Analysis Toolpak Add-In. The add-in is available for Excel for Windows and Excel 2016 for Mac or more recent. Instructions on how to run a regression in Excel can be found in the mass appraisal lecture or online.

Term Project

The term project is a practical application of the material learned in the course. The project counts for 25% of your course grade: presentation 5%, written report 20% (a portion of which will be allocated to the Proposal). Your group's presentation must be submitted to CourseLink prior to the class in which you are presenting. Your report must be submitted to CourseLink by 11:59 P.M. on the due date listed in the Course Schedule; spreadsheets for your project and your peer evaluation form must be submitted through CourseLink by the same time.

The project involves choosing a property and valuing the existing building(s) on the site. The real estate involved must be income producing (*e.g.* an apartment building, office building, shopping center), must have more than one tenant, and you must use Direct Capitalization and DCF techniques to analyze it; you must also consider the tax position of your investor. You may also use other appraisal techniques if you wish to check your value.

Groups: Projects should be completed in groups of three students – sign up together on CourseLink once you have formed your group. Approval for groups of four members will be allocated by the instructor via email on a first-come first-serve basis. **Reference your group number on all submitted materials.**

Data Collection: You will need the following information about your property (either provided by the current owner, or property manager, or investigated through some other means):

1. Number of units and size (apartment), number of square feet per unit (commercial)
2. Current tenant rents, length of leases, any contractual rent increases, vacancies etc.
3. What is included in rent? Is there other income from the property (laundry, parking, etc.)
4. Operating costs and which party (landlord or tenant) is responsible for paying them

You do **not** need to know anything about the current owner's financing or income tax situation; you will make assumptions about these for your hypothetical investor.

Proposal: Submit through CourseLink a one-page outline, by the date indicated in the Course Schedule, describing the project you intend to complete, including a description of the property, the data you have collected to date (and any remaining data you need to obtain), and the analysis you are planning. It is advisable that your group meets with the professor after gathering your initial data.

Presentation and Report: Approach your reporting as though you have been hired by a potential property investor to evaluate the financial implications of the investment and identify a suggested purchase price. Your report should include sufficient market and financial analysis to support your conclusions. Presentation Guidelines and recommendations are available on CourseLink.

Guidelines:

1. The report should be 10-15 double-spaced pages of text, plus pictures, charts, graphs, maps, cash flow projections, as required (Times New Roman 12-point font with 1 inch margins). Number the pages in your report and label/reference all exhibits.
2. You are expected to use the cash flow projection model taught in class for analysis of the term project cash flows. Your term project should include "what if" sensitivity analysis of the impact to the project if your major assumptions are optimistic.
3. Your results must include:
 - A market value of the property.
 - A recommendation to the investor:
 - Purchase or do not purchase at listed price or market value.
 - If you advise not to purchase, provide the maximum price at which investment would be

advisable.

- Sensitivity analysis.
- 4. Your report should follow the outline shown below:
 - Cover letter to the client: include assumptions about the client's tax situation, risk profile, conclusions about the investment and its value, date of valuation, etc.
 - Executive Summary: briefly describe the analysis you did and conclusions about the market. Primarily summarize your conclusions about the investment, including the value and date of value.
 - Market Description: tell the story of the region, city, and neighborhood in which the subject property is situated.
 - Property Description: include a description of the property, location, zoning, amenities, and any other features that affect value. Include maps and pictures.
 - Data Analysis: analyze the existing leases, income, expenses, capitalization rates, and the demand and supply for this type of space in the market. State your conclusions about the market rates and vacancy. You will need market evidence (data reports, comparables) to support these conclusions.
 - Highest and Best Use: using your analysis of the property and the market, state the H&BU as though vacant and as-is (make sure to take demolition costs into consideration).
 - DCF analysis and Income Approach: clearly state and support any assumptions.
 - Cost and/or Sales Comparison Approach (optional).
 - Reconciliation of Market Value.
 - Investor Analysis.
 - Sensitivity/what-if analysis.
 - Conclusions.
 - Works Referenced.

Advice:

1. Avoid special use properties. These are much more complicated to value. Such properties include assisted living facilities, student housing, farms, hotels, restaurants, and a wide variety of other types. As a guideline, avoid any property that earns a substantial part of its income from a source other than rent.
2. Avoid anything condominiumized. We can only value individually owned properties – properties that can be sold by one individual or company. If a building has several owners, then one entity cannot sell the whole building, so you should not try to value it as one property. You can value the condominium units (office, multifamily, etc.) that are owned by one investor in one building.
3. Consider avoiding homes converted to student housing. While they may seem simple, these are actually very difficult to correctly value because you cannot compare them to other homes that are owner occupied. Additionally, you will need to verify that the home is operating legally, which is based on the number of occupants, the manner in which the property has been divided, etc.
4. Your property should have at least three tenants but not hundreds.
5. Single-use properties will be easier to value. You will only need to complete market research (including finding supporting rental and expenses rates) for one type of property, not multiple.
6. Finding market data and comparables in major metro areas (the GTA, Waterloo, etc.) may be easier than in minor markets (Guelph).
7. Remember to round your estimates. Consider just how exact you are saying your estimate is (\$564,732 value vs. \$565,000 value).

Course Assessment

Performance will be evaluated based on the following:

	Weight	Description	Associated Learning Outcomes	Due Date
<i>Assessment 1:</i>	5%	Quizzes	LO 1-4	On-going
<i>Assessment 2:</i>	25%	Midterm Take-home Exam	LO 1-4	October 27
<i>Assessment 3:</i>	10%	Mass Appraisal Assignment	LO 1-5	November 8
<i>Assessment 4:</i>	25%	Term Project & Presentation	LO 1-5	December 1
<i>Assessment 5:</i>	35%	Final Exam	LO 1-4	December 11
Total	100%			

Quizzes

There will be six quizzes throughout the course. The lowest quiz score will be dropped from the calculation of this grade. **All quizzes are available in the content area of CourseLink and must be completed before the following Wednesday's class start.** Work is not accepted after it has been discussed in class.

Mass Appraisal Assignment

Guidelines for the mass appraisal assignment are enclosed in this syllabus. Please read these instructions carefully.

Midterm Exam

The midterm will be a take-home project/exam, submitted through CourseLink.

Term Project

Guidelines for the term project are attached to this syllabus. Please read these carefully before writing your report. You will want to start organizing the project early in the term. Importantly, a scholarship sponsored by The Condo Store of \$4,000 is awarded to the group with the best term project. The groups with the three best projects, based on the term project presentation and slide deck (including appendices), will present their solution to the judging panel on December 3. The judging panel, including executives from The Condo Store and the professor, will evaluate the top three projects and select a winner.

Final Exam

This exam will be cumulative, including material from the assignments, term projects, exercises, all reading material and issues discussed during the lectures, guest speaker(s), and student presentations. It may include multiple choice, true/false, and essay questions. It will include extensive calculation work.

Teaching and Learning Practices

This course will be split into three parts. For ten weeks of the course, half of the classes will be spent learning the Income Approach to value and Investment Analysis (labeled **IA I – IA VIII** in the Course Schedule). These will be heavy calculation days, and you should have access to MS Excel. The work (including assignments) from this section will be cumulative, so falling behind will be problematic. The other half of the classes will be spent studying the balance of appraisal concepts and approaches. The last two weeks of class will be dedicated to student presentations. Students are expected to attend these presentations, allowing everyone exposure to real life applications of appraisal content; content from the presentations may be included in the Final Exam.

Course Resources

This course uses a variety of materials and resources. One of your primary resources will be the course website (<http://courselink.uoguelph.ca>). All announcements, required and recommended readings, assignments and updates will be posted here. Check this site often.

1. UBC Real Estate Division, Real Estate Investment Analysis and Advanced Income Appraisal, 2019 edition. Available in bookstore, may be available used. Referred to as REIAAIA on the Course Schedule. Excerpts of the chapters used in this course are available on the course website under the University of Guelph Fair Dealing Policy.
2. A financial calculator (*e.g.* Texas Instruments BA II Plus or HP 12C) will be useful for assignments; we will also make extensive use of Microsoft Excel throughout the course.

Course Policies

Grading Policies

Unless you have discussed an extension well ahead of the due date with the instructor, late penalties of 5% of the total grade earned per day (including weekends) will be assigned to any assessment (i.e. deducted from the total mark). Extensions will only be granted on the basis of valid medical or personal reasons, and need to be requested via email to the instructor as soon as possible. Late assignments will not be accepted once graded assignments have been returned officially to the class at large, unless circumstances permit and alternative arrangements have been made.

Students who find themselves unable to meet course requirements by the deadlines or the criteria expected because of medical or personal reasons, should review the regulations on academic consideration in the Academic Calendar and discuss their situation with the instructor, program counselor or other academic counselor as appropriate.

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-grds.shtml>

Missed Assignments:

A grade of zero will be assigned if you fail to submit an assignment, unless you are ill or have other compassionate reasons. Please read your Undergraduate Calendar for the regulations regarding illness and compassionate grounds. Please note, vacation travel, moving house, or outside work commitments will not be accepted as valid reasons for missing deadlines.

If you have religious observances which conflict with the course schedule or if you are registered with Student Accessibility Services, please contact the course instructor in order to make arrangements for your assessment if appropriate.

University Policies

Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for Academic Consideration:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Student Accessibility Services as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email sas@uoguelph.ca or see the website:

<https://wellness.uoguelph.ca/accessibility/>

Course Evaluation Information

Please refer to the [Course and Instructor Evaluation Website](#)

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Drop date

The last date to drop one-semester courses, without academic penalty, is December 3, 2021. For regulations and procedures for Dropping Courses, see the Academic Calendar:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Illness

The University will not normally require verification of illness (doctor's notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.

Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the [COVID-19 website](#) and circulated by email.