

Course Syllabus

Instructor: Teo Nicolais, President
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Class Meeting Time: Tuesdays and Thursdays at 3:15 – 6:15pm US Eastern

Class Format: Live Online Lectures (recordings available for same-day viewing)

Course Website: <https://canvas.harvard.edu/courses/26724>



Course Description and Overview

A follow-up to *MGMT S-2035: Principles of Real Estate*, this course is geared toward individuals seeking to become active real estate investors or join a real estate investment company **as well as** those interested in seeing the real-world application of investment analysis and partnership techniques.

Above all, **this is a class about investment strategy and decision-making** through the lens of the largest and most ubiquitous asset class in the world: Real Estate.

You learn how to focus on the **four sources of real estate returns** (Cash Flow, Appreciation, Loan Amortization, and Tax Advantages) in crafting your investment strategy. You develop an “Investment Scorecard” with which you can scrutinize new investment opportunities and study common pitfalls in financial forecasting.

You gain a fundamental, real-world understanding of returns on capital: what they tell us about expected growth, market and project-specific risks, and the landscape of investment alternatives. You develop **practical, hands-on experience building financial Pro Forms in Microsoft Excel** including multi-year discounted cash flow analysis. You learn how to capture critical tax implications in your Pro Forms such in order to maximize After Tax Cash Flows from your investments.



You also learn a rigorous, **rational** approach for ensuring you are maximizing your returns on your existing investments. Specifically, you learn how to evaluate - on an on-going basis - **whether to hold, sell, refinance, or renovate an existing property** (an analysis which is woefully neglected by the vast majority of property owners and can lead to great value-creating opportunities for you).

You learn to **focus on the areas which generate the greatest value for you**, develop specific investment goals and property acquisition criteria, and then articulate those to investors and lenders to raise capital

Since most projects and entrepreneurial ventures (Real Estate and otherwise) require investor capital, **you study various strategies for structuring investor equity participation**. You learn specific mechanisms for allocating cash flows between partners in order to attract equity investors. You also learn how to safeguard both you and your investor in the event that a project doesn't go as planned.

Finally, you study recent trends in global real estate capital markets. You learn how Real Estate Investment Trusts (REITs) are creating new investment opportunities. Moreover, you study the rationales, obstacles, opportunities, and risks for investing outside of your home country and develop strategies for gathering local market intelligence.

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Course Format (Summary):

This course is designed to be taken 100% online.

In fact, students have taken this course on every continent except Antarctica.

Here's how it works...

Each week features a **live, three-hour, fully interactive online lecture**.



No special equipment is required to participate in lectures. While a web-cam and microphone will be necessary for completing the online exams it's common for students to communicate in lecture via the live online chatroom (and that is perfectly fine with us). Detailed instructions for joining online lecture sessions will be provided in advance of the first lecture.

Attendance is not mandatory. While you're encouraged to tune into live sessions, **you can always access the video recordings of lectures** which are posted to the Canvas Site immediately after the lecture.

The opportunity for **same-day viewing of lecture and section recordings** makes it easy and convenient for you to enjoy the full experience of the course even if your schedule does not allow for live attendance. In short, **you are free to join-in live, catch the lecture later in the evening, or even watch it the next day** depending on what fits your schedule best.



All assignments and exams are submitted online through the course Canvas Site. And taking exams is easy: you'll have a 24 hour window during which you can start your exam which means **you can take your exams at the time most convenient for you.** More details on that below.

Far from a traditional "course website," **Canvas** is a state of the art learning management system. We also utilize "Discussions" on Canvas to answer questions about Course Material as well as questions on Course Logistics.

A teaching assistant holds weekly section meetings using Adobe Connect to discuss the material in greater detail and offer office hours. For those of you who are new to the program, a "section" is like a mini-class that allows you to engage the material in a more intimate setting.

**Again, if you are unable to attend lecture or section meetings, worry not:
All lectures and sections are recorded and published to the course website for later viewing.**

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Earn Your Harvard Real Estate Investment Certificate

Real Estate Finance and Investment Fundamentals is one of four courses which count towards your **Harvard Extension School Real Estate Investment Certificate**. Through this professional graduate certificate, you become familiar with a wide range of real estate asset types while learning how to analyze markets, value assets, raise capital through debt and equity financing, and gain other essential skills for a real estate investment career. To earn your certificate you must take:

MGMT S-2035:	Principles of Real Estate
MGMT S-2037:	Real Estate Finance and Investment
MGMT E-5805:	Real Estate Enterprise Management
Elective:	See the course catalogue for eligible electives

Note: **You do not need to be a degree candidate or be pursuing your Real Estate Investment Certificate to take this course.** You can (and many students do) take this courses *individually* or to satisfy other requirements for degree programs. For more information, please visit:

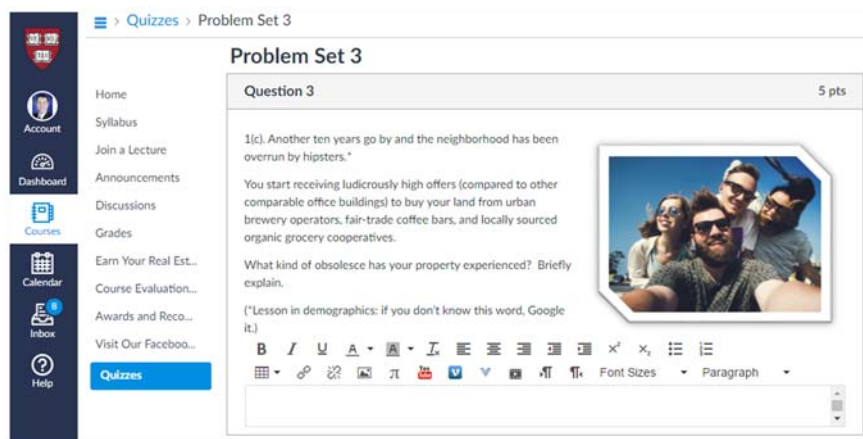
<https://www.extension.harvard.edu/academics/professional-graduate-certificates/real-estate-investment-certificate>

Weekly Assignments and Exams

As noted above, all weekly assignments and exams for the course will be completed online and submitted through the Canvas site.

Weekly assignments are designed to have a high degree of instructional value: completing the assignments will help you work through the material and discover insights on your own.

All assignments will be submitted online and are due at the times listed in the Course Calendar below. We cannot accept late problem sets for any reason. To compensate for this policy, we drop your two lowest of problem set scores from your semester grade calculation.



Assignments are graded and returned within one week of the submission deadline and **students have one week after the grades are posted to appeal grades for that assignment.** Please note, the appeal deadline refers to when you have to make your inquiry. The review itself generally takes place the following week but, rest assured, any re-grade request made prior to the one week deadline will be reviewed.

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Weekly Assignments and Exams (Continued)

There will be two exams. The first exam will cover Lectures #1 through #5. The second exam will cover Lectures #6 through #11. Both exams will be two hours in duration, carry equal weight, and are administered online.

You will have a 24-hour window during which you can take your exam. The examination window starts when lecture would ordinarily begin on exam day and ends 24 hours later. You can take your exam at any point during that examination window.



Exams are administered via Proctorio, an easy-to-use online proctoring which allow you to take your exam online anywhere any time during the examination window.

This easy to use service, which just like having an in-person proctor only it is done via the internet, ensures the integrity of your exam while saving you the expense and inconvenience of using an in-person proctoring facility.

Proctorio requires the use of a webcam and microphone on your computer. Most computers already have built-in webcams and microphones. If you don't have a webcam or microphone, third party vendors such as Amazon.com sell them for anywhere from \$5.00 to \$50.00.

(Keep in mind, purchasing a webcam is still much cheaper than hiring a proctor and taking the time to schedule an in-person exam. Plus, you get to spend money on a cool webcam that you can keep!)

All exams are closed note. Collaboration is not permitted. More information on exams will be provided closer to the exam date.

Readings

Our goal is to equip you with the tools you need to explore the exciting world of Real Estate both during this class and beyond. Toward that end, we've narrowed down the readings in this course to three exceptional textbooks which we think you will find to be valuable additions to your personal library. In order of importance for you success in the class, they are:

1. Geltner, David M., Miller, Norman G., Clayton, Jim, Eichholtz, Piet. Commercial Real Estate Analysis and Investment, Third Edition (OnCourse Learning, 2014)
ISBN-13: 978-1133108825
2. Brueggeman, William B., Fisher, Jeffrey D. Real Estate Finance & Investments, 15th Edition (McGraw-Hill, 2015)
ISBN-13: 978-0073377353
3. Poorvu, William J. The Real Estate Game: The Intelligent Guide To Decision-Making And Investment (The Free Press, 1999)
ISBN-13: 978-0684855509
(*This book is optional*)

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Readings (Continued)

While we recommend the most recent editions of the texts, in light of the cost of textbooks we understand that some **students may choose to purchase previous editions of the textbooks. This is totally ok with us.**

For your convenience, we will be posting a “Table of Contents” of the specific section headings from the “official” edition to serve as waypoints for students trying to find the same topics in previous editions of the texts (as we know, sometimes very little changes between editions except the page numbers).

Grading

Your semester score will be automatically calculated using the weighting system below and you will be awarded the higher of the two scores:

Undergraduate Students

Problem Sets: 30% Assignments: 30%
Midterm Exam: 35%
Final Exam: 35% **Final Exam: 70%**

Graduate Students

Problem Sets: 30% Assignments: 30%
Midterm Exam: 30%
Final Exam: 30% **Final Exam: 60%**
Final Project: 10% Final Project: 10%

When calculating your semester grade, we will drop your two lowest Problem Set scores. Letter grades will then be assigned according to the following fixed scale:

Letter Grade	Percentage of Semester Points
A	93%
A-	90%
B+	87%
B	83%
B-	80%

Letter Grade	Percentage of Semester Points
C+	77%
C	73%
C-	70%
D	65%
E/F	0%

The percentages above represent the lower bound of the letter grade range and semester scores are rounded to the nearest hundredth. For example, a student who earned an 86.99% would receive a B for the course. A student receiving exactly 87.00% of semester points would receive a B+ for the course.

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Other Logistics

Prerequisites:

This course is designed for individuals who have some previous experience with real estate investment and /or financial analysis. The most common ways students acquire that experience is through work or by taking *MGMT S-2035: Principles of Real Estate*.

If you are brand new to real estate and finance, you will be doing yourself a disservice by not taking *Principles of Real Estate* first.

Taught by the same instructor, *Principles of Real Estate* provides a rich foundation of knowledge which includes the tools of financial analysis and investment modeling needed to start investing in real estate.

MGMT S-2037 focuses exclusively on finance and investment and, consequently, does not teach many of the non-financial concepts (such as Real Estate Market Cycles and Land Use) which are extremely helpful for investors. Moreover, because the essential tools of financial analysis and investment modeling are taught in S-2035 they are only briefly reviewed in S-2037; this allows us to cover even more useful and exciting material in S-2037.

If MGMT S-2037 interests you but you have not yet taken *Principles of Real Estate* we **strongly encourage** you to view the syllabus and take *Principles of Real Estate* first (you will find it incredibly rewarding and you'll do much, much better in this class):

<https://canvas.harvard.edu/courses/26723>

Technology:

Microsoft Excel is required. Microsoft Office 365, which includes Microsoft Excel is available **free of charge to Harvard students**. Previous knowledge of Excel is helpful but not required.

Communication Outside of Class:

Students are welcome and encouraged to ask questions of the teaching staff outside of class. Our experience has been that **Canvas Discussions** or our **Live Class Sessions** with the benefit of video, audio, and whiteboards (all of which are recorded and posted the Canvas site for later review) are incomparably more effective and efficient in answering student questions than e-mail.

We encourage you to send us questions by posting to a **Canvas Discussion** and we will be glad to answer those questions on the discussion thread or *during the next section or class.*

E-mails for which neither class nor the Canvas Discussion are best suited (i.e. questions about your grade or circumstances specific to you) will answered within one business day during regular business hours (excluding weekends, evenings, and holidays).

Word of advice: keep a careful eye on the course calendar in the syllabus. Do not wait until the night before the weekly assignments are due start on them – if you want assistance from the teaching staff be sure to e-mail us ****before the scheduled meetings**** so we can answer your questions during the recorded sessions.

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Course Schedule

Lecture 0: Getting Started



Note: Lecture 0 is a self-paced exploration of the various tools we use in this course to deliver a great online experience for you. All of the information you need for this module can be found on the Course Canvas Site.

The first Problem Set addresses the material from Lecture 0.

Tue, Jun. 20th, 2017 - Lecture #1: Why Invest in Real Estate?

- What Distinguishes Real Estate Investment from Other Types of Investments?
- Ways to Invest in Real Estate
 - Direct Investment: Purchasing and Operating Properties
 - Indirect Investment:
 - Syndications, Multi-property Funds, Real Estate Investment Trusts
- The Four Sources of Real Estate Returns
- Understanding the “Real Estate Game” (the “William Poorvu Framework”)
- How Do You Decide Whether a Deal is Right for You?
 - Identifying Your Goals and Values
 - Understanding Your Risk Tolerance
 - Evaluating Your Resources: Time, Capital, and Experience
- Key Questions for Any Real Estate Investment
- What is the Life Cycle of a Real Estate Investment?

Readings: Brueggeman & Fisher (p. 346 – 349), Geltner & Miller (p.668 – 672) Poorvu (p. 1 – 12, p. 44 – 57)

Thu, Jun. 22nd, 2017 - Lecture #2: Key Concepts for Real Estate Finance (Overview)

- Note: Previous familiarity with the topics in this lecture is assumed. Students who are not familiar with the topics below can obtain this knowledge by taking MGMT S-2035: Principles of Real Estate (where it is taught in great detail) before taking this course.
- Essential Investment Analysis Tools
 - Time Value of Money
 - Present Value of a Future Payment
 - Net Present Value
 - Internal Rate of Return
 - What is the Net Present Value Rule for Making Decisions?
 - What is the Internal Rate of Return rule for Making Decisions?
- How Does Debt Financing Work?
 - What is Financial Leverage?
 - Measurements of Financial Performance
 - Benefits and Risks of Leverage
 - How Do You Determine the Size of a Loan?



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Course Schedule (Continued)

Tue, Jun. 27th, 2017 - Lecture #3: Key Concepts for Real Estate Investment (Overview)

- Note: Previous familiarity with the topics in this lecture is assumed. Students who are not familiar with the topics below can obtain this knowledge by taking MGMT S-2035: Principles of Real Estate (where it is taught in great detail) before taking this course.
- How Do You Develop a Simple Financial Model?
 - What is a Financial Pro Forma and How Do You Use it to Analyze Investments?
 - What Types of Cash Flows Should be Included in a Pro Forma?
 - What is a Stage 1 Financial Analysis? How Do We Build One?
 - Summarizing Your Stage 1 Financial Analysis: Cash Flows, Returns, and Other Financial Metrics
- How Do You Develop an Advanced Financial Model?
 - How Do You Build a Multi-year Discounted Cash Flow Analysis in Excel?
 - Adding Adjustments and Escalators (Inflation, Vacancy, etc.)
 - How Do You Forecast the Future Sale Price of Your Property?
 - Calculating Cash Flows and Returns Before and After Financing
- ***Problem Set #1 Due at 3:00pm US Eastern***

Thu, Jun. 29th, 2017 - Lecture #4: The Nuts and Bolts of Evaluating a Potential Acquisition

- How Do You Build an “Investment Scorecard”
 - Gathering Key Valuation Indicators and Operating Metrics from Your Market
 - Testing and Strengthening Your Assumptions
 - Establishing “Rules of Thumb” for Your Market
- Scrutinizing a Seller’s Numbers Using Your Investment Scorecard
 - Five Essential Questions for Evaluating a Potential Acquisition
- How to Avoid Common Pitfalls in Financial Modeling
- Special Factors to Consider in Your Analysis
- ***Problem Set #2 Due at 3:00pm US Eastern***



Tue, Jul. 4th, 2017 – No Class (University Holiday)

Problem Set #3 Due at 3:00pm US Eastern

(Note: You are welcome to submit your problem set early if you are traveling on the University Holiday.)

Thu, Jul. 6th, 2017 - Lecture #5: What are the Tax Advantages of Investing in Real Estate?



- What is the Difference between Net Income and After-Tax Cash Flow?
- What Types of Taxes Affect Real Estate?
- How Does Depreciation Increase After-Tax Cash Flows?
- Understanding the Taxes from a the Sale of a Property
- How Do You Calculate After-Tax Cash Flow in Your Financial Analysis?
- Minimizing Your Tax Exposure Using 1031 Exchanges
- The Tax Advantages of Debt Financing

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Course Schedule (Continued)

Tue, Jul. 11th, 2017 - Lecture #6: Where are Your Investment Returns *Really* Coming From?

- How Do You Decide What an “Appropriate” Return Should be?
- What Do Periodic Returns Reveal About a Real Estate Investment?
 - Expectations on Current Yield v. Asset Appreciation
 - Opportunity Cost of Capital
 - Your Risk Premium
 - Returns on Debt v. Equity Capital Sources
- Quantifying *Exactly* How Much of Your Internal Rate of Return Depends on...
 - ...Cash Flow v. Appreciation
 - ...The Price You Paid for the Deal
 - ...Increases in Cash Flows
 - ...Changing Market Conditions
- What Types of Risk Should be Factored into an Investment’s Return?
- Conceptual Frameworks for Quantifying Risk

Problem Set #4 Due at 3:00pm US Eastern



Thu, Jul. 13th, 2017 - Lecture #7: Maximizing Your Returns (Part 1)

- How Does Equity Build Up Over Time?
- What is the Equity Build-Up Paradox?
- How Do You Select the Holding Period that Maximizes Your Internal Rate of Return?
 - Key Analysis: Marginal IRR v. Holding Period IRR
- End of Investment Period Question: Should You Hold, Sell, Refinance, or Renovate?
- Decision Rules for Selling a Property
 - The Pros and Cons of Selling



*****SUNDAY, JULY 16th, 2017*****

Problem Set #5 Due at 12:00pm US Eastern

(In order to help you prepare for the midterm, Problem Set #5 will be due on a Sunday and the solution set will be released shortly after the 12:00pm US Eastern submission deadline. As with all problem sets, you are welcome to submit it prior to the deadline if you would prefer.)

Tue, Jul. 18th, 2017 – Midterm Exam

- Exam Coverage: Lectures #1 through #7
 - Primary Emphasis on Lectures #4 - #7
- Exam Duration: Two Hours
- Exam Window:
 - Starts at 3:15pm US Eastern on Tuesday, July 18th
 - Ends at 6:15pm US Eastern on Wednesday, July 19th

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Course Schedule (Continued)

Thu, Jul. 20th, 2017 - Lecture #8: Maximizing Your Return (Part 2)

- Refinancing (as an Alternative to Selling)
 - The Pros and Cons of Refinancing
 - Under What Conditions Should you Refinance?
- Return Maximizing Refinance Strategies
 - Equity Cash-out
 - Re-Amortization Your Loan
 - Lowering Your Interest Rate
- Decision Rule for Renovating a Property
 - Using Low Interest Debt to Finance High Return Improvements
 -



Tue, Jul 25th, 2017 - Lecture #9: How Do You Raise Investor Capital?

- How Does Financial Leverage Work? (Revisited)
- How Do Roles in a Partnership Differ?
 - Entrepreneur v. Money Partner
- Essential Questions for Forming a Partnership
 - What is the Investment Period?
 - How is the Entrepreneur Compensated?
 - What Happens if Something Goes Wrong?
 -and more.
- Mechanisms for Allocating Cash Flows Between Partners
- ***Problem Set #6 Due at 3:00pm US Eastern***

Thu, Jul 27th, 2017 - Lecture #10: Examples of Successful Partnership Structures

- Developing Your Cash Flow Distribution Waterfall
- What are Preferred Returns?
 - Cumulative and Non-Cumulative Preferred Returns
- What is a Lookback Return and How Does it Protect Investors?
- The Entrepreneur's Promote
- Example Structures (When They Work Best and Why)



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Course Schedule (Continued)

Tue, Aug. 1st, 2017 - Lecture #11: Advanced Topics in Real Estate Investment

- Analyzing Different Product Types
 - Apartments
 - Retail
 - Office
 - Industrial
- How Can You Maximize Value on a *Portfolio Level*?
 - Capital Allocation
 - Property Selection
- Ten Investing Styles for Your Portfolio
- Alternative Real Estate Investment Vehicles
 - Real Estate Investment Trusts (REITs)
 - Pooled and Commingled Funds
 - Opportunity Funds
 - Crowdsourcing
- Advice for Your Future Investments
- ***Problem Set #7 Due at 3:00pm US Eastern***



Thu, Aug. 3rd, 2017 – Final Exam

- Exam Duration: Two Hours
- Exam Window:
 - Starts at 7:40pm US Eastern on Thursday, August 3rd.
 - Ends at 7:40pm US Eastern on Thursday, August 4th.

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About the Instructor

Teo Nicolais is a real estate entrepreneur who loves to teach.

Nicolais lived and breathed real estate as the Director of Finance and Acquisitions for a \$500 million real estate investment company in Illinois which specializes in apartment communities and single-family home developments. In addition to developing cash flow forecasts and performing financial due diligence, Nicolais personally identified and negotiated the purchase of new investments and arranged project financing using equity, taxable and tax-exempt bonds, institutional debt, and conventional bank loans.

Nicolais currently lives in Denver where he owns a real estate investment company, Nicolais, LLC. With the help of his employees, Nicolais invests in multifamily rental properties in the Denver metro area and is active in the city's "fix-and-flip" market. Nicolais has served as the Vice President of the Apartment Association of Metro Denver (AAMD), Chair of the AAMD's Independent Rental Owner's Council, President of the Kiwanis Club of Alameda West, and as a Director of the US Fund for UNICEF. He is also a member of the Urban Land Institute,

Throughout his professional life, Nicolais has always made time to teach. As an Instructor at Harvard Extension School and Harvard Summer School, Nicolais has taught over 1,200 students about real estate.

Nicolais was awarded Harvard Extension School's **2016 Distinguished Teaching Award**, Harvard's university-wide **2016 Teaching Innovator Prize** for his work in online education, and has **twice received the Students' Choice Award from the Harvard Extension Student Association**. His students recently honored him with an overall rating of **4.96 out of 5.00** in their course evaluations of Principles of Real Estate. He was also the recipient of the Harvard Extension School's First Annual Dean Michael Shinagel Award in 2014.

He earned his bachelor's degree from Harvard College with a concentration in economics. As part of his undergraduate academic work, he studied advanced real estate finance at the Harvard Graduate School of Design and leadership at the Harvard Business School.

Academic Integrity

You are responsible for understanding Harvard Summer School policies on academic integrity (<http://www.summer.harvard.edu/policies/student-responsibilities>) and how to use sources responsibly.

Not knowing the rules, misunderstanding the rules, running out of time, submitting the wrong draft, or being overwhelmed with multiple demands are not acceptable excuses.

To support your learning about academic citation rules, please visit the Resources to Support Academic Integrity (<http://www.summer.harvard.edu/resources-policies/resources-support-academic-integrity>) where you will find links to the Harvard Guide to Using Sources and two free online 15-minute tutorials to test your knowledge of academic citation policy. The tutorials are anonymous open-learning tools.

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Accessibility

The Summer School is committed to providing an accessible academic community. The Accessibility Office offers a variety of accommodations and services to students with documented disabilities. Please visit <http://www.summer.harvard.edu/resources-policies/accessibility-services> for more information.

Professional Conduct

Professional behavior is expected throughout the class. This means respectful communication. During discussions, negotiations, and debriefs, civil discourse should be maintained at all times and comments should be aimed at moving the discussion forward. This does not mean that students must always agree with others since reasoned, respectful dissent may be part of the discovery process and lead to previously unconsidered options. Opportunities to provide feedback to classmates will be provided in class in our debriefing sessions.