

Course Syllabus

[Jump to Today](#)

COURSE SYLLABUS

TECHNOLOGICAL INNOVATION IN REAL ESTATE

SPRING 2017

PLA6730

1.5 CREDITS

Class Meeting Times: Mondays, 2PM – 4PM

Classroom: 200 Fayerweather

Instructor: Josh Panknin

Jcp2200@columbia.edu

Class assistant: Martin Alvero

ma3571@columbia.edu

1. COURSE DESCRIPTION

This class will demonstrate the ongoing and increasing disruption of the real estate industry through the use of bigger data and more sophisticated technology applications. The use of technology is fast becoming an integral part of the real estate and finance industry. With the number of real estate technology firms growing exponentially and the amount of venture capital funding being poured into the development of more sophisticated technology for real estate, understanding the technology trend is an essential part of a real estate career.

This course will not cover any coding/programming curriculum. The amount of time needed to develop proficiency in programming computers is more than what we have available in this class. Instead we will attempt to cover as much information as possible about the identification and development of effective technology platforms for sophisticated real estate applications. This will include the assessment of systems and

processes currently in place with the intent to identify areas that can be improved. Once this identification is made, an understanding of development methods, development operations (DevOps), and User Experience (UX) research methods can foster the creation of much more effective systems than would otherwise be possible.

The intent of this class is not to create programmers or software developers, but rather develop the thought process necessary to give real estate professionals the ability to meaningfully participate in the transformation of the real estate industry through technology.

Since this is the first class of its kind that I know of, I expect it to be fluid and I ask for lots of feedback from you, the students, as to what's working and what's not. Real estate technology is a field that's still largely in its infancy that requires the union of real estate, an industry that is fairly archaic in many ways, and technology, which changes on an almost daily basis. We will try to figure out how to use our in-depth knowledge of the real estate industry to create technology that brings the industry up to date.

1. COURSE REQUIREMENTS AND ASSIGNMENTS

There will be a good amount of reading in this course and simple assignments/projects that will attempt to instill the topics presented from week to week. The development of technology is much like the development of real estate in many ways. Like the design and functionality of a specific piece of real estate can make the property more or less attractive to users, the design and functionality of technology can have a significant effect on the usability and adoption of a system. Also like real estate, new fields of research have identified more systematic ways to develop technology. The assignments/projects will encourage you to think through these systematic processes and start to identify topics in the real estate arena that can be significantly improved.

In the first class we will discuss options for assignments and projects. In summary, the options are:

1. Use the real estate calculator site designed by the Center for Urban Real Estate at Columbia to apply the concepts covered in class and make recommendations on how to improve the design and functionality of the site.
2. Identify an existing real estate technology company and use their site to apply the concepts covered in class and make recommendations on how to improve the design and functionality of the site.
3. Use a student generated idea for a technology system to apply the concepts covered in class and make recommendations on how to improve the design and functionality of the site.

III. COURSE GRADING CRITERIA

"Course grading criteria are as follows:

- Attendance and in-class participation: 35%
- Completion of readings and/or questions: 25%

- Weekly projects (4 or 5): 20%^[L]_[SEP]
- Final exam or paper/project: 20%

1. READINGS

Students will be expected to complete readings in advance of class. These will be posted as far in advance as possible on Courseworks.

Required textbook(s): None

Recommended textbook(s): None

1. COURSE OUTLINE

This may adjust as we go through the course and get feedback on how projects are progressing.

Class 1: January 23, 2017: Introduction and Overview of CRE Technology

In this class we'll cover basic introductions, a class overview, and then delve into the current state of real estate technology platforms. Discussion will cover existing companies and systems and why we haven't seen a true breakthrough in real estate technology. We'll also cover some of the difficulties associated with developing technology for the real estate industry.

Class 2: January 30, 2017: How to Identify Opportunities to Apply Technology

Once you get comfortable with a given area (real estate in our case) you'll start to notice things such as a repetitive task or functionality that's difficult/inaccurate to use. By understanding what technology does you can better identify pieces that are good candidates for smaller, incremental improvements and those that would benefit from larger improvements.

Class 3: February 6, 2017: User Experience and Design

Developing technology that's attractive and functionally accurate is important, but small features can make a big difference in the ease of usability of a site. We'll cover some of those methods in this class.

Class 4: February 13, 2017: Development Operations (DevOps)

Development operations cover the entire spectrum from identification of new technology to implementation and modification after implementation. There are multiple schools of thought on proper methods to follow and we'll look at each one.

Class 5: February 20, 2017: Current Technology Options

In order to develop sophisticated technology in the real estate sector, you'll likely have to communicate with very experienced programmers and coders. The ability to effectively communicate your systems research with them is key to receiving fully functional systems versus systems that "kind of" work.

Class 6: February 27, 2017: The Future of Real Estate Technology

Advancements in areas such as artificial intelligence could play a transformational role in the real estate industry. Using the concepts learned in previous classes, we'll try to identify narrow areas in the real estate domain that could benefit significantly from more advanced technologies.

1. FINAL EXAMS AND PROJECTS

There will not be a final exam, but we'll discuss whether a written report on your chosen project or a presentation is preferred.