CLASS DATES
1. January 29
2. February 5
3. February 12
4. February 19
5. February 26
6. March 5
7. March 12
8. March 26
9. April 2
10. April 9
11. April 16
12. April 23
13. April 30
14. May 7

ITP Thesis Class – Spring 2019

CLASS TIMES:
Some classes in the afternoon, some in the evening. All students come to the speakers and special activities. Find your section below.
3:00-5:00--Adaora, Kathy, Kat, Gabe
5:15-6:15--Speakers, Activities
6:30-8:30--Nancy, Greg, Stefani

First class: January 29
Last class: May 7
Thesis Week: May 13-17

OVERVIEW OF THESIS: THE FLOW
During the thesis semester you will experience the whole product development cycle, from concept development through to presentation. It is a compressed, amp-ed up version; few products move this rapidly through these stages. What's not included is marketing, budget—basically, the business end. Here's more detail on the stages of a normal product design process. That said, different kinds of projects have different

requirements for demonstration of proof-of-concept. Click here for details.

+**Research & Concept Development:**
You already started at Thesis Prep day, and in these weeks you will continue the process of discovery to gain a comprehensive and full understanding of the contextual background and knowledge base of the subject matter. This phase continues through week 3.

Research:
      1. Has your idea already been done? If not, what else out there is similar? What other work has influenced you? Who else is doing work in this area?
      2. What do you need to know to accomplish your goals and how will you find out? E.g. Library research, talk to people in the field, readings. What's the need? What's the market?Why hasn't it been done? Who is your audience? What are they like?

Concept Development:
Make your project as real as you can in as many ways as you can, so that you are solid as you enter the design and production phases.
      1.Synthesize findings from the research phase into your creative concepts.
      2.Refine your concept to take in the findings.
      3. Make sure your idea is the right size...more than a whim or a 2 week class project, but constrained so that it can be accomplished in the time frame.
      4. Make rough prototypes..cardboard and glue, drawing, acting out,etc.

+**Design/ prototyping/production:**
      1.Make, build, remake, rebuild
      2.Explore and refine the concepts to hone the core features.
      3.Talk to users, early and often
      4.Methods may include sketches, storyboards, models, script development, wireframes and prototyping (prototype fidelity ranges from simple paper mockups to clickable and unpolished interactives, scaled projections, hardware or software - according to need).
      5.The aim is to test specific strengths and weaknesses of proposed designs, and evolve your project, and identify hardware dependencies.

+Presentations - ongoing informal updates + more formal, mid-semester and final presentations

+**Document Everything...as you go!**

The semester moves after the 3rd week from being a traditional class with teacher developed assignments to self-motivated independent work

with you developing the schedule and the assignments. Note, yes, you develop the schedule, but we all have the same end date!

Your advisors and residents will support you every step of the way. Imagine your thesis section is a design firm. The Thesis Advisor is the head of the firm. You are each project directors of a project e*ssential* to the firm's success. When we meet together, as in a staff meeting, you will provide updates, raise issues you need help with, solicit and give feedback to your colleagues.

The syllabus becomes loose so that an advisor has the flexibility to customize to the needs of the class. Your advisor will decide on class meetings and small groups for you to study with that will change, most probably, throughout the semester. As production ramps up, you may not have class at all, but meet 1:1 with your Advisor. Still the floor is yours, and the energy is awesome.

Speakers at the beginning of the semester are geared to providing info related to getting your work done. In the second half, speakers will relate to life after ITP.

You will see TJ and AYP on the syllabus every week. These are the two consistent assignments:

1. *TJ: Post a weekly update in your Thesis Journal.* It may only be a paragraph. We are not looking for professional writing. These are notes to yourself on your progress, and also to your Advisor and Resident. These often prove to be invaluable as you continue the semester, and often beyond. Some weeks there will be a specific assignment to post as your weekly update.
2. *AYP: Advance Your Project* Whatever the assignment if from your class, your main job is to keep working on your project. Most of the assignments we give you are not burdensome.There are specific milestones that will help you set the pace. But don't look to the syllabus to find out all you have to do. That's in your court.

EXTRA SUPPORT

Thesis Angels
Of course, you may go to any of your faculty for help. They love you. BUT remember they all have 30+ students of their own who will get first priority. So go easy on that channel.

Aside from your Thesis Advisors, the Residents and your colleagues:

Margaret Smith is the Physical Sciences Librarian at Bobst. NYU is a phenomenal resource, under-used by ITP… and she loves ITP. She will come speak the first week of class to give an overview of NYU's resources, and will be on hand the first few weeks for individual sessions. Your way-overqualified research associate.

SIRS

You can find their emails and office hours on the Help page.

Pedro Galvao Cesar de Oliveira . -- Fabrication Production Mentor

Sara Rothberg . -- VR Production Mentor

Brian Jones .-- Growing Things

Stefani Bardin . -- Growing Things, Biotech

Gene Kogan -- Machine Learning/AI Google Grant

Stefania Druga . -- AI/Youth Tech/Maker Education Google Grant

Mimi Onuoha . -- Data Gathering Google Grant

Yining Shi . -- Machine Learning Google Grant

Ayodamola Okunseinde /Nikita Huggins . Art Project Machine Learning Google Grant

Joey Lee -- Information Visualization Google Grant

Cassie Tarakajian . -- P5 Google Grant

Quardean Lewis-Allen--Spatial Justice, Community Design, Education

OVERVIEW OF SYLLABUS WITH MILESTONES

Weeks 1 – 3 Concept Development

- **Class 1   January 29** – Whole Section Together, meet with Advisor, Residents and whole section.Portfolio presentations: 5 minutes per student + 2 minutes Thesis Idea
- **Class 2   February 5** – Whole Section: Dream Review, Research
- **Class 3   February 12** – Meet in smaller sections models, scenarios, sketches. Thesis proposal, Context Paper Due.

Milestone: Submit Thesis Proposal by 5:00 p.m. on February 15th ,

Weeks 4 – 7 Design, Production, Prototyping

- Class 4   February 19 – Feedback on proposals & design, adjust schedules
- Class 5   February 26 – Ongoing feedback, prepare midterm presentation
- Class 6   March 5 – Milestone - Half of the class: midterm review with inside/outside reviewers
- Class 7   March 12– Milestone - Other half of the class: with inside/outside reviewers

Milestone: Projects set in stone at this point. No change of topics after 7th week.

** Spring Break **

- **Class 8 March 26 –**1:1s with Thesis Advisor and Residents, Prepare for Quick and Dirty Thesis Show
- **Class 9 April 2 – 1:1s with Thesis Advisors and Residents**

Mini-Milestone: April 2, 6-8pm, Quick & Dirty show with First Years, Alums, and next year's First Years

Weeks 10 – 11 Testing and Iterating

- **Class 10   April 9 –** One-Half Report on: user testing, tech testing, critical feedback
- **Class 11   April 16 –** The Other Half Report on user testing, tech testing, critical feedback

Milestone: Project Summaries & Materials for Thesis Archive* by April 16th

Weeks 12 – 14 Finalize Prototypes, Thesis Journals, Presentations

- **Class 12 & 13   April 23/30 –** Prepare/practice presentations
- **Class 14   May 7–Final presentations with outside critics**

Milestone: Project & documentation (TJ) approval by Thesis Advisors

   Thesis Week May 13-17 2019

THESIS CLASS WEEK-BY-WEEK SYLLABUS

<u>**CONCEPT DEVELOPMENT: WEEKS 1-3**</u>

You will submit your Thesis Proposal for approval **the Friday after Class 3 (5 pm, Feb 15).** Two members of the Full-Time ITP Faculty will read your proposal to make sure you on the right track for an acceptable ITP thesis project. If not acceptable, you will be given a thumbs down and asked to rework your proposal before you can proceed.

You will also write a **Context Paper, due Class 3**. The Context Paper will be a summary of the research you have done for your project, people you have talked to or will talk to... and include people and work that has influenced you. You can find a chart in the Resources Section of the Thesis Journal to guide you. You can update this paper during the semester. This paper will be sent to the outside critics who will review your thesis on May 7.

These assignments are all geared to helping you make your idea feel real– tests to see if the idea is viable, if it still interests you and to ensure that it has solidified into a workable/doable concept. Research is a big part of that. Although research will go on throughout the process, it is most intense in the concept development phase.

How to make an idea feel *real* when it's not? These are the methods you will use in your career in any field (even art): make a lo-fi prototype, a model, write a scenario, develop a user profile, sketch out a schedule, sketch variations of the vision. This will also help your classmates– especially those in your section—give very clear, strong feedback. And then when it's your turn, take it to heart. The earlier you can find out glitches, the better.

Class 1 January 29

Class: Whole Section together.
Syllabus Overview & Portfolio Presentations (5 mins portfolio +2 mins thesis idea)
Note: PRACTICE YOUR PRESENTATION, TIME YOURSELF. YOU WILL BE CUT OFF AT 7 MINUTES. HAVE YOUR PRESENTATION READY TO GO...THE RIGHT DISPLAY, ETC.
(get something to eat)
5:15-5:45   Planning for Fabrication, Ben Light
5:45-6:15   "What you should know and be able to do before you go forward with a VR/AR/360 Project", Todd Bryant

Assignment:

TJ & AYP
1.
DREAM REVIEW - Write a rave review for your thesis/product. *Over-the-top positive* in Wired, The New Yorker, on Boing Boing! Wherever you would most like the publicity. Have fun with it...compliment yourself...Take this seriously, it helps the process of making your idea real. Remember, you also have to say:
- what IT is
- what it's GOOD for
- who would use it
- why the maker made it.
- *Focus on the adjectives you use to describe the project*.
- Post to the Thesis Journal/

2.
RESEARCH - Continue initial research on your idea.
#1 *Verify Your Idea*: Make sure your idea has not already been done. Terrible to find that out in the 6th week! You might want to research each other's ideas to see what is out there that's similar. Get input from classmates.

Make a (physical, analog) chart with the questions you have and answers so far and bring it to class.You will share it in class, and colleagues will make suggestions. So leave room for people to make notes.
Then post it on the TJ and any other summary of your research to date. Here are some critical questions to answer:

- What else is out there like it?
- How is yours different?
- How does it improve what exists?
- What audience is it for?
- What is the world/context/ market that your project lives in?
- In your initial research, have you found something you didn't expect? Is it an interesting path to follow?
- What do you need to know about the content/story?
- What do you need from a tech standpoint?
- If it's too much for the time.. Are there any discrete parts of it you could accomplish?

- Not on the chart… keep this digital: Start a bibliography/reference resource.Better to do it as you go along... than trying to find them later.
  - (Don't know how how to do a Bibliography? Try Zotero. It's easy, free, and open source. Download it at http://zotero.org (The library also subscribes to RefWorks and EndNote, if you already use those, that's fine, too.)

Class 2 February 5
Whole Class Meeting
1. Residents Present their thesis: focus on process, and what they wished they'd done
2. Post Charts on Wall. Research Swap Meet
3. Cardboard/ Tape and really Rough: Prototype a classmate's Thesis.
 Speakers:
5:15 Margaret Smith, Librarian for Science and Technology.
    She will tell you about resources available to you. And she herself is a great resource to ITP students

Assignment:

§ TJ & AYP
 § Imagine your project in as many ways as you can.
                            "You don't understand a thing until you can represent it in 3 different ways" Marvin Minsky

1. 5-3-3:
    a. 5 Questions that you will investigate with your thesis project

b. 3 Possible venues for your work to be shown.
     i. Look at artists or creators who show their work in these venues and explain why you would want to be part of these institutions or venues.
  c. 3 Experts or types of people you would like to speak to about your thesis. Describe why you would want to speak to these 3 people. (They should be realistic. Not fictional or deceased people)

2. A model, in the style of a "Cornell Box," pointing to the *emotional impact* of your thesis. This should be a representation of its intended impact, not a technical or procedural model.
   a. You can view more about Cornell's work here: https://www.guggenheim.org/artwork/artist/joseph-cornell
3. Scenario: Written, video or graphic scenario of the experience.A storyboard that walks through the experience for any design, UX, product thesis project)
4. Who is the target user?(if applicable) Develop a thorough character profile of the user. (see description of what goes into a Persona in the Resources section on the Thesis Journal).

All of these methods are intended to surface questions early on in the process when it's too easy to be vague about the specifics… and to get out of your head. Post these to the TJ instead of a weekly update

Class 3: February 12
Class is divided into 2.
One half meets with the Thesis Advisor for an hour.
      Show & Tell of scenarios, models, etc. Overview and Instructions for Thesis Proposal.
One half meets with their Resident
      Begin Production Schedule
Then switch for the 2nd hour.

Speaker @ 5:15S:Katherine Dillon on User Testing

Assignment:

- **SUBMIT YOUR THESIS PROPOSAL BY 5PM FRIDAY, FEBRUARY 15TH.**
- Write and Post your latest Thesis Statement (from your Thesis Proposal).

- Write and Post your rationale for doing this thesis. (In other words: The "So-What?" Why do you want to do it; why is it a good idea? what's your passion behind it?)
- Post your Production Schedule and assignments to the website. (See Self-Assignment Matrix under Resources on the website) in preparation for your 1:1
- TJ & AYP

MILESTONE: Thesis Proposal submitted by 5pm Feb 15. This is a real deadline. *WHY?*

The full-time faculty will be reviewing the proposals over the weekend. The Thesis Journal will be locked at 5 pm, open only to full-time faculty and thesis advisors.If you don't submit a proposal, duh, you will not get a thumbs up. The Faculty is doing this for you in addition to their other work. We cannot go back to them after the weekend for stragglers.

The faculty will give a thumbs-up or thumbs down to your proposal. If you get a thumbs down, your Thesis Advisor will contact you and work with you to revise. You must have an approved thesis to continue the semester.

DESIGN, DEVELOPMENT, PROTOTYPING: WEEKS 4 – 9

Mid-term reviews are the milestone for this period.(Class 6 & 7) By mid-terms you must be able
- to communicate clearly what your idea is,
- to show evidence of the research you have done,
- to show the progress you have made in design and prototyping,
- to convey as accurately as possible what you intend to have finished by the end of the semester.,
- and to commit to that!

People often find—through prototyping, early design, and programming–that they need to narrow (or, rarely, broaden) their scope a bit. This is a period of making, evaluation, revision, re-making, hands-on activity.

From here on, your Thesis Advisor and Residents will probably see you in small groups instead of a large class. They will let you know each week how they want to organize.

Class 4: Feb 19

3:20-6:00   Class time.. Your Thesis Advisor and Residents will group you and let you know how and when to meet.

Assignment:

§ TJ & AYP according to your own self-assignments and schedule

Class 5- February 26

3:20-6:00   Class time.. Your Thesis Advisor and Residents will group you and let you know how and when to meet.Work on Mid-Term Presentation

Activity Class Mash-up Crit . You will be assigned a group of 7 students **not** in your class for a crit group. Details to come. **Your presence is required..not optional like other speaker nights.**

Assignment:

§ TJ & AYP according to your own self-assignments and schedule
§ Prepare Mid-Term presentation

Class 6- March 5

 MILESTONE: MIDTERM REVIEWS/PRESENTATIONS: Group A, with
          outside reviewers and Group B students will take notes for the person
          Presenting on the Thesis Journal.

Assignment

§ TJ & AYP according to your own self-assignments and schedule
§ Prepare your mid-term presentation

Class 7: March 12

MILESTONE - MID-TERMS REVIEWS/PRESENTATIONS: Section B,
                with outside reviewers and Group A, sections will take notes for the
                person presenting.

NOTE: The mid-term reviews/presentations are a major milestone and deadline. That's why there's all this bold type!

1) ***You may not, absolutely not, change your thesis after this point.***

2) This is the point where you will get a warning if you are at risk for failing thesis— if your mid-term presentation did not pass the reviewers and your Thesis Advisor's evaluation of its do-ability, of your progress or understanding of your project, and have shown insufficient evidence of work. That is, it means that you have not kept up with your own assignments and schedule. You will get a warning, will meet immediately with your Thesis Advisor and Nancy for feedback and advice about what you need to do. If you fail Thesis, you will not graduate and will have to take the class again in the fall.

If you have done all the work to this date, the chances are near zero that these dire circumstances will happen. Do the work, listen to feedback, take advantage of all the support around you.

SPRING VACATION

  REST…. but it's also a good time to AYP!

At this point, you need the time to work, more than you need class time. So, after spring break, you will be given the time to work on your own, and also have 1:1 with your Thesis Advisor and Residents.

We will at this point be bringing in speakers who might be interesting for you as you start to plan Life After ITP.

Class 8- March 26
Class time.. Your Thesis Advisor and Residents will group you and let you know how and when to meet.

==Speakers/Activities TK==

Assignment:

- TJ & AYP according to your own assignments and schedule.
- Check the Requirements:
    - do you need to start user testing?
    - Secure a place for a performance.
- Prep materials for the Quick and Dirty (Q&D) Thesis Show

Class 9 -April 2

Class time.. Your Thesis Advisor and Residents will group you and let you know how and when to meet.

All: 6-7:30 Prep for Quick and Dirty Thesis Show

7:30-9:00 Mini-Milestone - Quick & Dirty Thesis Show.
- First Years, Alums and others will be invited to hear you talk about your work…Not in formal stand-up presentations, more like the Winter/Spring Show.
- Just having to explain your project to lots of different people will help you develop your pitch, your elevator statement..and help you to see what people do and do not get.
- Be prepared with a 11X 14 sized poster with the name, elevator statement, description of your project. Have your model/ or some images

that you've developed.
- To get the best feedback you might have a short list of questions for people who come by (do you get what it is? can you see a use for this?, etc) At this point, you don't want people telling you what they would do, or give you another idea. So ask questions you really want the answer to!

Assignment:

- TJ & AYP according to your own assignments and schedule.
- Summarize and post to the Thesis Journal what you've learned from the mid-terms, Q&D and others sources:
    - the critical feedback you have gotten from experts and users.
    - If your project involves users, results of your user testing.
    - Show how you have incorporated feedback into your work. (See Resources for materials on conducting user research.).
    - You may have rejected some feedback, say why.

TESTING/WRAP UP – WEEKS 10 – 11

Class 10- April 9

Class time..Your Thesis Advisor and Residents will group you and let you know how and when to meet. Work on Thesis Archive Materials.
==Speakers TK==

Assignment:

- TJ & AYP
- Prepare Materials for Thesis Archive & Thesis Project Summaries

Class 11- April 16

MILESTONE: SUBMIT THESIS SUMMARIES AND MATERIALS FOR
 THESIS Archive BY END OF DAY APRIL 16

Assignment:

§ AYP according to your own schedule.

§ Overview of your Thesis: prepare summaries of your work. Post to TJ.
    This will be your final post to the TJ. It should be a summary of your work in
all the categories. If put together, it would be a short thesis paper
    documenting what you did, why you did it, how you did it, what you learned
    unforeseen problems & solutions, etc. Your final elevator statement and
    description you already submitted for the Thesis Archive.. How long does it have to be? As long as it has to be. Maybe a paragraph for each
section. Maybe 1500 words all together.

FINAL PRESENTATIONS: WEEKS 12 – 14

Almost to the finish line!. Week 14, we have a one-night glorious crazy festival of presentations. You will make your final presentation to outside reviewers. All 112 of you will present on May 7.

Thesis Week presentations are more like TED talks...no discussion. The final week presentations are closer to a defense of your idea. There will be invited outside reviewers who are conversant with your topic. They will have read your Thesis Archive Statement and Context/Research summary ahead of time.

 As a rule we do not ask full-time faculty to be on the review because they will all go to Thesis Week….and we want to be mindful of their time. If there is a particular person you want to review your thesis, in addition, please check with your Thesis Advisor. It will be up to you to invite that person.

Your presentation will be 10 minutes long. And you will have 10 minutes of feedback..

The reviewers will ask questions. You may record your presentation, but you must DIY or make the arrangements yourself.. They will have been given the guidelines for an ITP thesis and will be asked to judge if you have fulfilled the requirements. If not, that's a failing grade and you won't present at Thesis Week.

There is absolutely no reason this should happen to anyone if you've followed the syllabus and worked hard this semester.

Class 12- April 23

 Class time..Work on Your Presentation. Your Thesis Advisor and Residents will group you and let you know how and when to meet as groups
Speaker:

Assignment:

§ Prepare Presentation.
§ Practice, Practice, Practice
§ Practice with your section, to your pet, your neighbors …
§ TJ

Class 13-April 30
Class Time: Practice Sessions for final presentation

Assignment:

§ Continue to Prepare and Revise Presentation.
§ Practice, Practice, Practice – with you section, your grandmother, a friend
        who knows little about tech, an ITP student!)
§ Post Weekly Progress Report
§ Thesis Journals - finalize process documentation

Class 14- May 7

3:00-9::00 MILESTONE: FINAL (10 min) PRESENTATIONS -

 Assignment:

§ Prepare/Revise Presentation.
§ Practice, Practice, Practice - with your section, etc.
§ MILESTONE: Thesis Journals – final weekly status report & submit final
         process documentation
§ Finalize all Thesis Progress Summaries. (TJs will be approved this
         week by Thesis Advisors)

THESIS WEEK

Thesis week is a time of celebration. You present your work to the world. Yes, the world. It will be streamed. It's fine to ask friends & family to your thesis week presentation. You may be nervous… but remember, you've done the hard work, now you get to show everyone what you've done and everyone in the audience is cheering you on.