Day 1 – Monday, July 23

AGENDA		
9:00 – 10:00	Introductions, course overview, pre-course survey	Sabin-Reed 104
10:00 – 11:30	Overview of projects covered in the course	
12:00 – 1:00	Lunch	----------
1:00 – 1:30	Four team assignments	Sabin-Reed 104
1:30 – 2:30	Drone anatomy & Assign drone components (in pairs)	
2:30 – 3:00	Flight mechanics	
3:00 – 4:00	Flight simulator	Bass 105

ASSIGNMENT

- Prepare to share your goals for the course with the class
- Research your assigned drone component (for a 3 minute presentation)
- Blog post 7/23 by designated pair

READINGS

- *What Drones Can Do and How Do They Do It* in Drones and Aerial Observation by New America
- *How GPS Works* (FAA)
- FAA Part 107 Summary
- Optional - *FAA's Safety Rules for Commercial Drones Are Overly Strict*, UAS Vision (full report available)

Day 2 – Tuesday, July 24

AGENDA		
9:00 – 9:15	Review	Sabin-Reed 104
9:15 – 10:00	Present drone component research	
10:00 – 11:00	Guest Lecture: FAA & Safety by Dan Carter (FAA Safety Team Program Manager, Bradley FSDO)	
11:00 – 12:00	Rules & Regulations, Part 107 Jeopardy!	
12:00 – 1:00	Lunch	----------
1:00 – 1:30	Share personal goals for the course	Sabin-Reed 104
1:30 – 2:30	Guest Lecture: Invasive Species Management at Smith College by Gaby Immerman (Educator, Botanic Garden)	
2:30 – 3:00	Global Positioning Systems	
3:00 – 4:00	Mission planning & mapping	

ASSIGNMENT

- Develop your own mapping mission checklist
- Blog post 7/24 by designated pair

READINGS

- *How to Make a Maps with Drones* in Drones and Aerial Observation by New America
- Watch DroneDeploy Mission Planning YouTube Playlist
- Read "What are Ground Control Points (GCPs) and How Do I Use Them?" by DroneDeploy

Day 3 – Wednesday, July 25

AGENDA		
9:00 – 9:15	Review	Sabin-Reed 104
9:15 – 9:45	Flight checklist & prepare for Grow Food Northampton	
10:00 – 12:00	Site Visit: Grow Food Northampton—[1.] Layout & Coordinates for GCPs [2.] Mapping missions [3.] Collect edible hedgerow data in Fulcrum [3.] GPS coordinates for property boundary	221 Pine St., Florence, MA
12:00 – 1:00	Lunch	----------
1:00 – 3:00	Image processing & photogrammetry, introduction to ArcGIS online for web-mapping	Sabin-Reed 104
3:00 – 4:00	Jeopardy!	
ASSIGNMENT		
● Write up flight log for Grow Food Northampton ● Submit answers to checklist worksheet and attach your own checklist ● Blog post 7/25 by designated pair		
READINGS		
● Watch How to Fly a Multirotor by FlightTest ● Watch Practice Flight Patterns by Eric Cheng ● Watch Droneblocks introduction and write code for your first dronie		

Day 4 – Thursday, July 26

AGENDA		
9:00 – 10:00	Review, discuss checklists, review data from Grow Food Northampton	Sabin-Reed 104
10:00 – 12:00	Guest Lecture & Demo: Drones and Public Safety; Thermal Imaging & Accident Reconstruction by Sgt. Patrick Moody (Northampton Police Department)	Sabin-Reed 104 and Fields
12:00 – 1:00	Lunch	----------
1:00 – 4:00	Site Visit: MacLeish Field Station—[1.] Practice flight patterns [2.] Test dronie from Droneblocks	MacLeish Field Station
ASSIGNMENT		
● Research drone regulations in your hometown (https://droneregulations.info/index.html) ● Review Aeronautical Charts (pages 26 - 32) ● Review 3DR Aeronautical Charts study guide ● Blog post 7/26 by designated pair		
ADDITIONAL RESOURCES		
7:00 – 8:00	Flight Simulator open with Sydney	

Day 5 – Friday, July 27

AGENDA		
9:00 – 9:30	Review, share hometown drone regulations, assign final project groups	Sabin-Reed 104
9:30 – 12:00	Guest Lecture & Activity: Film and Video with Kate Lee, Senior Video Producer and Drone Pilot	Sabin-Reed 104 and Campus
12:00 – 1:00	Lunch	----------
1:00 – 4:00	Site Visit: MacLeish Field Station—[1.] Flight modes [2.] Emergency procedures [3.] Flight patterns	MacLeish Field Station
ASSIGNMENT		
● Write 1-2 questions for Northampton Airport visit on Monday ● Blog post 7/27 by designated pair		

Day 6 – Monday, July 30

AGENDA		
9:00 – 10:00	Review	Sabin-Reed 104
10:00 – 12:00	Site Visit: Northampton Airport	160 Old Ferry Rd, Northampton, MA
12:00 – 1:00	Lunch	----------
1:00 – 1:30	Case studies of drone applications	Sabin-Reed 104
2:00 – 4:00	Site Visit: Paradise Pond Invasive Area D	Athletic Fields
ASSIGNMENT		
• Research a case study of drone application • Blog post 7/30 by designated pair		
READINGS		
• *(FINAL PROJECT GROUP SPECIFIC)*		

Day 7 – Tuesday, July 31

AGENDA		
9:00 – 9:15	Review	Sabin-Reed 104
9:15 – 10:15	Guest Lecture: Drones in Paradise by Bob Newton (Professor, Geosciences)	
10:15 – 11:00	Share case studies	
11:00 – 12:00	Plan for afternoon MacLeish site visit	
12:00 – 1:00	Lunch	----------
1:00 – 4:00	Site Visit: MacLeish Field Station—[1.] GAP analysis with Paul Wetzel	MacLeish Field Station
ASSIGNMENT		
• Complete first part of final project proposal • Blog post 7/31 by designated pair		
READINGS		
• Review *Global drone regulations* • Read *Smith College institutional governance policy* • Read *Northampton Drone Ordinance*		

Day 8 – Wednesday, August 1

AGENDA		
9:00 – 10:00	Review	Sabin-Reed 104
10:00 – 12:00	Creative Open Time—FPV with DJI Goggles/Open discussion forum/3D model & print	
12:00 – 1:00	Lunch	----------
1:00 – 4:00	Site Visit: MacLeish Field Station—First Person View (FPV) and Drone Racing by Tim Hebert (Brandeis University)	MacLeish Field Station
ASSIGNMENT		
• Submit final research project proposal • Group work on final projects • Blog post 8/1 by designated pair		

Day 9 – Thursday, August 2

AGENDA		
9:00 – 10:00	Review	Sabin-Reed 104
10:00 – 12:00	Group work time for final projects, Jeopardy!	
12:00 – 1:00	Lunch	----------
1:00 – 4:00	Site Visit: MacLeish Field Station—Capture images/videos for final presentation	MacLeish Field Station
ASSIGNMENT		
● Work on final projects		

Day 10 – Friday, August 3

AGENDA		
9:00 – 10:00	Review	Sabin-Reed 104
10:00 – 10:40	Group work time for final projects	
10:40 – 11:30	Final presentation rehearsal	McConnell Hall
11:30 – 1:00	Lunch	----------
1:00 – 4:00	Final project preparations, image analysis with multi-spectral camera (time-permitting)	Sabin-Reed 104/Athletic Fields