There exists a lot of uncertainty about the world's future. As change seems to be accelerating, the challenges we face span many different scales, from local to global, and connect the biophysical, technological, and cultural, including the mental. This course will inquire into how "systems thinking" can offer new approaches to planetary issues (at least for us in the course). The focal toolkit will be the system of metapatterns developed by the instructor (see the next page for a diagram). But you will also be introduced along the way, as needed, to other system toolkits. Basically, we will be looking at functional patterns or principles that are common across scales of "systems and relations," and including, importantly, the dynamics of cultural evolution. This is an inquiry-based seminar and we will expect self-direction from everyone, once we get some basics down.
**Your work:** This is an active, project-based course, in which you be guided into independent thinking and then research, in addition to the required readings and discussions. There will ongoing classroom presentations, using powerpoint and other media (the board, handouts, etc.). The classroom becomes a workshop for developing new understandings of systems and patterns that can be applied to issues facing the world future and the future of the complexities of culture.

ANTICIPATED FLOW OF WORK: One major project, with several presentations of readings and personal comments along the way, on topics that are asked to be “responses” to material being presented in the readings and discussions. The major project will be the focus of the course from week 10 onward, with several presentations of concepts in focus groups and to the overall class. Focus groups will serve as review panels and engage peers in the topic of comparing and contrasting metapatterns and their applications to the ongoing research of each student.

**Week by week topics:**

Week 1. Introduction to metapatterns and also to challenges that various experts have been raising about world futures (we also brainstorm about that ourselves). The structure of the biosphere and the global carbon cycle. Readings assigned for the following week. (The main book, *Metapatterns*, will be provided to all, either as a handout of chapters as we move along, or as a whole copy).


Week 6. Issues of world futures: nations, CO₂, nuclear war, AI, biodiversity, planetary environmental “borders,” economics, scarcity versus abundance, the self, more. Readings: Pinker, Frase, Gufaston, Reis, Salk, Zuboff (papers and short selections from books).


Week 8. Work on ideas for final projects, and continued discussions. All students make brief presentations of a proposal for a final project, which applies ideas about systems
thinking to issues we have been discussing about the future and the improvement of cultural evolution. All students get feedback from class discussion about their individual proposals. An assignment to refine their project ideas will be given for the following week, as well as instructions to read journal papers, parts of books, and watch video lectures relevant to their proposals.

Week 9. Students present findings from additional research they have done relevant to their proposed final topic.

Week 10. Each student makes a second brief and more advanced presentation of a proposal for a final project, modified from their plans from the previous week, taking into account prior class “workshop” feedback, in which each applies ideas about systems thinking. An outline for the rest of the semester will be developed, in collaboration with students, including short works-in-progress presentations, and at least one major presentation, as well as the final paper.

Week 11. During these final weeks 11-15, the seminar is a fully-dedicated working group, in which students lead discussions based on what they are reading and thinking about, building on what they have previously presented. Everyone is now up to speed with the fundamentals: basic levels of metapatterns, cultural evolutionary dynamics, other tools for systems thinking, and what we most need to creatively think about regarding issues about the future. Students present original work and get feedback in the seminar.

Week 12. Students present original work and get feedback in the seminar. (as in Week 11, continued)

Week 13. Student present work. Everyone submits preliminary parts of papers (introduction, and at least main figures and preliminary or anticipated findings) for a round of peer review by others.

Week 14. Submission of reviews of papers and general discussions about connections among the papers (at least 2 papers will be reviewed by every student)

Week 15. Final presentations (if required for some), final discussion, submission of final papers.

**Grading:**

Course attendance and participation (10%)
Oral reports on the assigned readings and short papers (2-3 pages) corresponding the oral reports (15%)
Two presentations of ideas for final projects (2 x 7.5% each = 15%) 
Two, 2 page reviews written of preliminary papers of others (10 % total)
Reading lists developed during preliminary presentations of ideas for final projects (5%)
Final project, including final presentations and final paper (15-25 pages): (10% + 35% = 45% total)
Total = 100%
(Oral presentations will be graded based on (1) thoroughness of preparation and understanding of readings, (2) clarity and organization of ideas, (3) professional development of ppts or handouts, and (4) interest generated in classroom discussions. Durations for the oral reports and follow-up times allotted to general classroom discussion about reports will be adjusted based on the class size and requirements of the topic; usually I find that reports tend to be well-prepared and therefore more time is usually welcomed.)

**Required, core readings:**

**Course books:**


**Course papers and selections from books:**


Harari, Yuval. Author of *21 Lessons for the 21st Century*. Assignment will be to watch an interview with him or one of his lectures.


Volk, Tyler. *Quarks to Culture: How We Came to Be*. Columbia U. Press. A selection from this book about general evolutionary dynamics, relevant to cultural evolution. (2017)


Zuboff, Shoshana. Author of *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. Assignment will be to watch an interview with her.
Main website: http://metapatterns.wikidot.com

**Academic Integrity**
Students are expected to know and understand the policies on academic integrity, including [University](http://example.com) and [CAS](http://example.com) policies.

The instructors of this course will not tolerate cheating or plagiarism. When academic dishonesty is suspected, it will be dealt with seriously in adherence to these policies.

If a student is caught cheating or plagiarizing, the instructors may, at their discretion, give the student an academic sanction. Such a sanction may include a reduction of the grade on that assignment or exam (possibly to 0) or even a reduction of the final course grade (in consultation with the Director of Undergraduate Studies, who may meet with the instructors and the student to discuss the nature of the offense). Depending on the severity of the infraction, the sanction could mean failure of the student in the course. The student may appeal any grade reduction to the Director of Undergraduate Studies. The departmental decision is final. In addition, any substantial case brought by an instructor to the Director of Undergraduate Studies must be referred to the Dean's office for possible disciplinary action.

If you have any questions or uncertainties about these policies, please consult the instructor, Director of Undergraduate Studies, or Dean’s office.

**Diversity and Inclusion**
The instructors of this course share [NYU's commitment](http://example.com) to “building a culture that respects and embraces diversity, inclusion, and equity”. We aim to create a learning environment in which every student feels included, supported, and respected. We will hold students (and ourselves) to the CAS Honor Code's pledge to "behave with decorum and civility, and with respectful regard" for others.

**Accommodations for Students with Disabilities**
Academic accommodations are available to students with disabilities. Students should please register with the [Moses Center for Students with Disabilities](http://example.com) as early as possible in the semester.