



University of
New Haven

The Imitation of Nature

SECTION I: Course Overview

Course Code: PHL365

Subject Area(s): Philosophy, Humanities, and STEM disciplines

Prerequisites: None

Language of Instruction: English

Total Contact Hours: 45

Recommended Credits: 3

COURSE DESCRIPTION

Using an interdisciplinary approach, this course introduces students to the different methodologies employed in the arts and sciences to investigate nature. Through a multitude of methods, students will learn the evolutionary, historical, and sociological context of mimicry and imitation. This course analyzes the teachings and theories of the likes of da Vinci, Darwin, Freud, as well as the most recent innovations of the contemporary world.

Students will also engage in the ways in which science has historically justified discrimination and exclusion in the name of objectivity. This course will cover controversial topics such as racism, slavery, bioethics, and digital ethics. By exploring the interaction between humans and nature, students will become versed at navigating and applying interdisciplinary research methods across the humanities and sciences.

LEARNING OBJECTIVES

Upon successful completion of this course, you will be able to:

- Employ different scale measurements in natural and human history.
- Distinguish between different paradigms in scientific discourses concerning nature and the relationship of living species.
- Effectively discuss theories of imitation in the arts, humanities, natural, and social sciences.
- Apply adequate methods and standards of interdisciplinary academic research.

SECTION II: Instructor & Course Details

INSTRUCTOR DETAILS

Name: TBD
Contact Information: TBD
Term: TBD

ATTENDANCE POLICY

This class will meet once weekly for 180 minutes each session. All students are expected to arrive on time and be prepared for the day's class session.

CEA enforces a mandatory attendance policy. You are therefore expected to attend all regularly scheduled class sessions, including any field trips, site visits, guest lectures, etc. that are assigned by the instructor. The table below shows the number of class sessions you may miss before receiving a grade penalty.

ALLOWED ABSENCES – SEMESTERS		
Courses Meeting X day(s) Per Week	Allowed Absence(s)	Automatic Failing Grade at X th Absence
Courses meeting 1 day(s) per week	1 Absences	4 th Absence

For every additional absence beyond the allowed number, your final course grade will drop down to the subsequent letter grade (ex: A+ to A). As a student, you should understand that the grade penalties will apply if you are marked absent due to tardiness or leaving class early. In the table below, you will find the grade penalty associated with each excessive absence up to and including automatic course failure.

ATTENDANCE DOCKING PENALTIES				
Absence	1 st	2 nd	3 rd	4 th
Penalty	No Penalty	0.5 Grade Docked	1 Grade Docked	Automatic Failure
HIGHEST POSSIBLE GRADE AFTER ATTENDANCE PENALTIES				
Grade	A+	A	A-	F

CEA does not distinguish between excused and unexcused absences. As such, no documentation is required for missing class. Similarly, excessive absences, and the grade penalty associated with each, will not be excused even if you are able to provide documentation that shows the absence was beyond your control. You should therefore only miss class when truly needed as illness or other unavoidable factors may force you to miss a class session later on in the term.

GRADING & ASSESSMENT

The instructor will assess your progress towards the above-listed learning objectives by using the forms of assessment below. Each of these assessments is weighted and will count towards your final grade. The following section (Assessment Overview) will provide further details for each.

Class Participation	15%
Reading Presentations	10%
Additional Source Presentation (ASP)	10%
Taking Minutes	5%
Reflection Paper	10%
Mid-Term Exam	15%
Controversy Activity	15%
Final Project	20%

The instructor will calculate your course grades using the CEA Grading Scale shown below. As a CEA student, you should understand that credit transfer decisions—including earned grades for courses taken abroad – are ultimately made by your home institution.

CEA GRADING SCALE			
Letter Grade	Numerical Grade	Percentage Range	Quality Points
A+	9.70 – 10.0	97.0 – 100%	4.00
A	9.40 – 9.69	94.0 – 96.9%	4.00
A-	9.00 – 9.39	90.0 – 93.9%	3.70
B+	8.70 – 8.99	87.0 – 89.9%	3.30
B	8.40 – 8.69	84.0 – 86.9%	3.00
B-	8.00 – 8.39	80.0 – 83.9%	2.70
C+	7.70 – 7.99	77.0 – 79.9%	2.30
C	7.40 – 7.69	74.0 – 76.9%	2.00
C-	7.00 – 7.39	70.0 – 73.9%	1.70
D	6.00 – 6.99	60.0 – 69.9%	1.00
F	0.00 – 5.99	0.00 – 59.9%	0.00
W	Withdrawal	N/A	0.00
INC	Incomplete	N/A	0.00

ASSESSMENT OVERVIEW

This section provides a brief description of each form of assessment listed above. Your course instructor will provide further details and instructions during class time.

Class Participation & Assignments (15%): Student participation is mandatory for all courses taken at a CEA Study Center. The instructor will use the rubric below when determining a participation grade:

CLASS PARTICIPATION GRADING RUBRIC

The instructor reserves the right to make changes or modifications to this syllabus as needed

Student Participation Level	Grade
You make major & original contributions that spark discussion, offering critical comments clearly based on readings, research, & theoretical course topics.	A+ (10.0 – 9.70)
You make significant contributions that demonstrate insight as well as knowledge of required readings & independent research.	A/A- (9.69 – 9.00)
You participate voluntarily and make useful contributions that are usually based upon some reflection and familiarity with required readings.	B+/B (8.99 – 8.40)
You make voluntary but infrequent comments that generally reiterate the basic points of the required readings.	B-/C+ (8.39 – 7.70)
You make limited comments only when prompted and do not initiate debate or show a clear awareness of the importance of the readings.	C/C- (7.69 – 7.00)
You very rarely make comments and resist engagement with the subject. You are not prepared for class and/or discussion of course readings.	D (6.99 – 6.00)
You make irrelevant and tangential comments disruptive to class discussion. You are consistently unprepared for class and/or discussion of the course readings.	F (5.99 – 0.00)

Virtual class participation will be measured by (a) how often students log in the course, (b) their performance and attitude in mandatory live sessions, and (c) how significant their contributions to the virtual discussions are; students should be ready to offer critical comments clearly based on readings, research, & theoretical course topics.

Reading Discussions (10%): Every week we will discuss in class a selection of readings. Specific reading instructions and questions will be given in the first weeks. You will occasionally be given the opportunity to choose the reading you prefer among a few options and you will post your reading choice through the *Choice feature* on Moodle. All students in turns should be ready to summarize the contents of the readings to the assembled class. All readings will be available on Moodle.

Additional Source Presentation ASP (10%): Weekly readings will be complemented by a series of primary sources available through Moodle. These will enrich the course contents and provide additional aspects. Once during the semester, each student will present one of these additional sources, 1) introducing the author/subject; 2) presenting/ summarizing the main argument/contents of the text; 3) providing a critical elaboration of the text in a video presentation of max. 7 minutes. The presentation will be posted on Moodle and will be discussed in class.

Taking Minutes (5%): Every student is expected, once in the semester, to serve as minute-taker for a given week. Sign up for your week, and take extensive notes about the contents and interventions, synthetically summarizing the class proceedings for an ideal absent student.

Reflection Paper (10%): On Week 5, you will submit a brief, 2 page-long responsive essay where you formulate a reflection on the course contents discussed in the previous weeks. You will quote at least one reading and elaborate a critical comment on it.

Mid-Term Exam (15%): The Mid-Term Exam tests your acquisition and critical elaboration of the readings and contents covered in the first part of the semester, as well as your application of academic

practices in argumentation and exposition. The test will consist of a series of questions on the subjects discussed in the readings and in the classroom.

Controversy Activity (15%): The Controversy Activities allow you to apply, both individually and through teamwork with your classmates, critical skills on important theoretical or ethical contents addressed in the course. You will choose your group in advance through the *Choice feature* on Moodle, and prepare to contend your views with other groups whose opinions diverge from yours. The Controversy Activities might imply defending positions you don't share in real life. Such Controversies constitute an important critical moment for the class and should be conducted with passion and respect for the opinions of others. To best prepare for Controversies you can use the templates from Graff, Birkenstein and Durst, *They Say, I Say*.

Final Project (20%): The final project focuses on a subject of your choice. It summarizes and concludes your academic research in the course and will be evaluated on the basis of your critical elaboration and creative expression of the chosen contents. You will be given the opportunity to choose your medium (video, PPT presentation etc.) & audience (the assembled class, but also your media community).

REQUIRED READINGS

All readings will be available on Moodle. Reading assignments for this course will come from the texts listed below. All required readings must be completed according to the due date assigned by the course instructor.

REQUIRED TEXT(S): The required text(s) are listed below:

1619 Project: New York Times Podcast by Nikole Hannah-Jones - Episode 2: "The Economy That Slavery Built", <https://www.nytimes.com/interactive/2019/08/14/magazine/1619-america-slavery.html>

James S. Ackerman, "Imitation", in *Origins, Imitation, Conventions: Representation in the Visual Arts* (Boston: MIT Press, 2002), pp. 126-141.

David Archibald, "Blaming Aristotle", in *Aristotle's ladder, Darwin's tree: The Evolution of Visual Metaphors for Biological Order* (New York: Columbia University Press 2014), pp 1-21.

Aristotle, *Poetics*, (State College, PA: The Pennsylvania State University - Penn State Electronic Classics Series Publication, 2000)

Eric Bonabeau, Marco Dorigo, Guy Theraulaz, "Introduction", in *Swarm Intelligence: From Natural to Artificial Systems* (Oxford: Oxford University Press, 1999), pp 1-23.

Dieter Birnbacher, David Carus, "Natural and Artificial: Introductory Distinctions", in *Naturalness. Is the "Natural" Preferable to the "Artificial"?* (New York: University Press of America, 2014), pp 1-16.

Homi Bhabha, "Of Mimicry and Man: The Ambivalence of Colonial Discourse," in *Discipleship: A Special Issue on Psychoanalysis*, Spring, 1984, Vol. 28, pp. 125-133

Rosi Braidotti, "Post Humanism: Life beyond the Self", in *The Posthuman* (Cambridge. Polity, 2013), pp. 13-54.

Carlo Ginzburg, "The Europeans Discover (or Rediscover) the Shamans", in *Threads and Traces: True, False, Fictive* (Berkeley: University of California Press 2012), pp. 83-95.

Leonardo Da Vinci, *Notebooks* (Oxford: Oxford University Press, 2008), pp 3-13; 100; 210-214.

Scott R. Garrels, "Human Imitation Historical, Philosophical, and Scientific Perspectives", in *Mimesis and Science - Empirical Research on Imitation and the Mimetic Theory of Culture and Religion* (Ann Arbor: Michigan State University,

2011), pp. 1-38.

Donna J. Haraway, “When Species Meet: Introductions”, in *When Species Meet* (Minneapolis: University of Minnesota Press, 2008), pp. 3-44.

Martin Kemp, “Shaped by Growth: Branches and Spirals”, in *Structural Intuitions: Seeing Shapes in Art and Science* (Charlottesville, VA: University of Virginia Press, 2016) pp. 63-98.

James Kennedy and Russell C. Eberhart, “Models and Concepts of Life and Intelligence,” in *Swarm Intelligence* (San Diego, CA: Academic Press, 2001), pp 3-34.

Manuel Lima, “The tree of Life”, in *Visual Complexity: Mapping Patterns of Information* (New York: Princeton Architectural Press, 2011), pp 20-42.

T. R. New, “Adaptive management options: habitat re-creation”, in *Insect Species Conservation* (Cambridge: Cambridge University Press, 2009), pp. 145-165.

Porphyry , *Isagoges, or Introduction to Aristotle’s Categories*, Chapters I-V
https://www.tertullian.org/fathers/porphyry_isagogue_02_translation.htm

John P. Rafferty, *The Paleozoic Era; Diversification of Plant and Animal Life*. New York: Encyclopædia Britannica, 2011. pp. 18-35.

John P. Rafferty, *The Cenozoic Era: Age of Mammals*. New York: Encyclopædia Britannica, 2010. pp. 12-34

John P. Rafferty, *The Mesozoic Era: Age of Dinosaurs*. pp. 13-40. New York: Encyclopædia Britannica, 2010. pp. 13-40.

Giorgio Vasari, “Life of Leonardo da Vinci”, in *The Lives of the Artists* (Oxford: Oxford University Press, 1998) pp. 284-298

ADDITIONAL READINGS (PRIMARY SOURCES FOR ASP)

In addition to the regular reading assignments, during the course students will present an additional source or theme complementing course contents and chosen from a diverse group of topics and authors, in arts, sciences and ethics from different periods. These include:

Dante Alighieri, “Canto XI”, *The Divine Comedy: Inferno* (London: Penguin Books) pp. 168-175.

Avicenna, “The Temperaments”, *The Canon of Medicine* (London: AMS Press, 1973) pp. 57-64.

The Bible, King James Version “Genesis I-VII,” <https://quod.lib.umich.edu/cgi/k/kjv/kjv-idx?type=DIV1&byte=1477>

The Declaration of Human Rights: <https://www.un.org/en/about-us/universal-declaration-of-human-rights>

Pico Della Mirandola, *Essay on the Dignity of Man* (Cambridge: Hackett Publishing Company Inc., 1965) pp. 1-35.

Hesiod, *Theogony*, <https://www.theoi.com/Text/HesiodTheogony.html>

Thomas Hobbes, *The Leviathan* (London: Touchstone, 1997) pp. 26-39.

Al-Jahiz, “Al-Jāhīz on Flies and Other Things,” Geert Jan van Gelder ed., *A Library of Arabic Literature Anthology* (New York: New York University Press, 2012) pp. 176-194.

- Giacomo Leopardi, "Dialogue between an Icelander and Nature", in *The Moral Essays* (New York: Columbia University Press, 1983) pp. 98-104.
- Albertus Magnus, *The Book of Minerals* (Oxford: Clarendon Press, 1967) pp. 55-83.
- Christopher Marlowe, *Doctor Faustus* (London: Norton and Company 2005).
- Ovid, "The Judgment of Tiresias," *Metamorphoses* (London: Norton and Company, 2004) pp. 278-281.
- Plato, "Book X," *The Republic of Plato* (New York; Basic Books, 1991) pp. 277-303.
- Ptolemy, *Tetrabiblos* (Cambridge, MA: Harvard University Press, 1980) pp. vii; 121-127.
- François Rabelais, "Chapter VIII" from *Pantagruel*, in *The Works of François Rabelais*, Vol. II (London: Gibbings & co., 1922) pp. 71-78.
- Giacomo Rizzolati, "The Mirror Neuron System and Imitation", in Susan Hurley, Nick Chater eds, *Perspectives on Imitation From Neuroscience to Social Science - Volume 2: Imitation, Human Development, and Culture* (Cambridge, MA: The MIT Press, 2005) pp. 55-76.
- Charalampos Saitis, "Fractal Art: Closer to Heaven? Modern Mathematics, the Art of Nature, and the Nature of Art," in K. Fenyvesi, T. Lahdesmaki eds., *Aesthetics of Interdisciplinarity: Art and Mathematics* (New York: Springer International Publishing, 2017) pp. 153-163.
- Mary Shelley, *Frankenstein* (London: Penguin Classics, 2018).
- Leslie Stevenson, David L. Haberman, Peter Matthews Wright, and Charlotte Witt, "Darwinian Theories of Human Nature", *Thirteen Theories of Human Nature* (Oxford: Oxford University Press, 2018) pp. 246-286.
- Leslie Stevenson, David L. Haberman, Peter Matthews Wright, and Charlotte Witt, "Freud: The Unconscious Basis of Mind", *Thirteen Theories of Human Nature* (Oxford: Oxford University Press, 2018) pp. 206-226.
- Anthony Trewavas, "The Green Plant as an Intelligent Organism", in Frantisek Baluska, Stefano Mancuso, and Dieter Volkmann eds, *Communication in Plants: Neuronal Aspects of Plant Life* (New York: Springer, 2006) pp. 1-18.
- Ibn Tufayil, *The Tale of Hayy Ibn Yaqdhan* (London: Darf Publishers Limited, 1986) pp. 39-64.
- Gianbattista Vico, "Book I", *The First New Science* (Cambridge: Cambridge University Press, 2002) pp. 9-34.

ADDITIONAL RESOURCES

In order to ensure your success abroad, CEA has provided the academic resources listed below. In addition to these resources, each CEA Study Center provides students with a physical library and study areas for group work. The Academic Affairs Office at each CEA Study Center also compiles a bank of detailed information regarding libraries, documentation centers, research institutes, and archival materials located in the host city.

- **UNH Online Library:** As a CEA student, you will be given access to the online library of CEA's School of Record, the University of New Haven (UNH). You can use this online library to access databases and additional resources while performing research abroad. You may access the UNH online library [here](#) or through your MyCEA Account. You must comply with UNH Policies regarding library usage.
- **CEAClassroom – Moodle:** CEA instructors use Moodle, an interactive virtual learning environment. This web-based platform provides you with constant and direct access to the course syllabus, daily schedule of class lectures and assignments, non-textbook required readings, and additional resources. Moodle includes the normal array of forums, up-loadable and downloadable databases, wikis, and related academic support designed for helping you achieve the learning objectives listed in this syllabus.

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During the first week of class, CEA academic staff and/or faculty will help you navigate through the many functions and resources Moodle provides. While you may print a hard copy version of the syllabus, you should always check Moodle for the most up-to-date information regarding this course. The instructor will use Moodle to make announcements and updates to the course and/or syllabus. It is your responsibility to ensure that you have access to all Moodle materials and that you monitor Moodle on a daily basis in case there are any changes made to course assignments or scheduling.

To access Moodle: Please log-in to your MyCEA account using your normal username and password. Click on the “Academics” tab. There you will see a link above your schedule that says “View Online Courses” select this link to be taken to your Moodle environment.

COURSE CALENDAR
The Imitation of Nature

SESSION	TOPICS	ACTIVITY	READINGS & ASSIGNMENTS
1	<p>Course Introduction: Review Syllabus & Classroom Policies</p> <p>Fundamental Questions: What is Nature?</p>	<p>Course Overview</p> <p>In class activity <i>Scale Activity:</i> Numbers and Measures</p> <p><i>Chronology Activity:</i> Eons, Geological Eras, Evolutionary Stages</p>	<p>Reading:</p> <ul style="list-style-type: none"> • Britannica Encyclopedia: <i>Nature</i> <p>One of your choice between:</p> <ul style="list-style-type: none"> • John P. Rafferty, <i>The Paleozoic Era</i>. pp. 18-35. • John P. Rafferty, <i>The Mesozoic Era</i>. pp. 13-40. • John P. Rafferty, <i>The Cenozoic Era</i>. pp. 12-34. <p>Assignments: Categories and Measurements on Nature: prepare to present your chosen geological era.</p>
2	<p>Imitation, Mimesis and Science</p> <p>Fundamental Questions: What is Imitation? Who Imitates?</p>	<p>In class activity <i>Chronology Activity:</i> Periodization in Human History</p>	<p>Reading:</p> <ul style="list-style-type: none"> • Scott R. Garrels, <i>Human Imitation Historical and Scientific Perspectives</i> • Dieter Birnbacher, David Carus, <i>Natural and Artificial: "Introductory Distinctions"</i> <p>Assignments: Timelines: Put Garrels' references on a timeline of your making, respecting the due sense of proportion of the intervals between dates. Prepare to discuss your work in class.</p> <p>Choose and prepare to discuss in class a case of imitation of your choice.</p>
3	<p>The Ancients & Us: Nature, Imitation, and Logics</p>	<p>In class activity <i>Controversy 1:</i> "Origins: Universe, life, and humans."</p>	<p>Reading:</p> <ul style="list-style-type: none"> • Aristotle, <i>Poetics</i> • Porphyry, <i>Isagoge</i>, Chapters I-V Hesiod, <i>Theogony</i> • Plato, <i>The Republic</i>, Book X, pp. 277-303. <p>ASP: Sources related to this week's contents:</p> <ul style="list-style-type: none"> ○ The Bible: <i>Genesis I-VII</i>

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			<ul style="list-style-type: none"> ○ Hesiod, <i>Theogony</i> ○ Ptolemy, <i>Tetrabiblos</i>. pp. vii; 121-127. ○ Plato, <i>The Republic</i>, Book X, pp. 277-303. <p>Assignments: Prepare to describe one natural or artificial object by employing the Aristotelian method outlined by Porphyry.</p> <p>Group preparation for Controversy 1</p>
4	Nature and Design: Taxonomy in Practice	<p>In class activity <i>Taxonomy in Practice:</i> Origins, Genealogies, Codification</p> <p>Controversy 2: “Humans and their place among the living”</p>	<p>Reading:</p> <ul style="list-style-type: none"> ● Archibald, <i>Aristotle’s Ladder, Darwin’s Tree</i>: “Blaming Aristotle”, pp 1-21. <p>ASP: Sources related to this week’s contents:</p> <ul style="list-style-type: none"> ○ Al-Jahiz, <i>On Flies</i>, pp. 176-194. ○ Avicenna, <i>The Temperaments</i>, pp. 57-64. ○ Albertus Magnus, <i>The Book of Minerals</i>, pp. 55-83. ○ Dante Alighieri, <i>Inferno</i>, Canto XI, pp. 168-175. <p>Assignments: Follow the instructions to position the human species in relation to another living species of your choice: what do they share, and what distinguishes them? Prepare to present your reflections in class.</p> <p>Group preparation for Controversy 2.</p>
5	Analogy, Deduction, Representation: Imitation and the Renaissance	<p>In class activity <i>Making Metaphors in Science and the Arts</i></p> <p>Reflection Paper due</p>	<p>Reading:</p> <ul style="list-style-type: none"> ● Da Vinci, <i>Notebooks</i>, pp 3-13; 100; 210-214. <p>One of your choice between:</p> <ul style="list-style-type: none"> ● Vasari, <i>Life of Leonardo da Vinci</i>, pp. 284-298. ● Ackerman, <i>Origins, imitation, conventions...</i>, pp. 126-141. <p>ASP: Sources connected with this week’s contents:</p> <ul style="list-style-type: none"> ○ Ibn Tufayil, <i>Hayy Ibn Yaqdhan</i>, pp. 39-64. ○ Della Mirandola, <i>Essay on the Dignity of Man</i>, pp. 1-35. ○ Rabelais, <i>Pantagruel</i>, Chapter VIII, pp. 71-78.

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			<p>Assignments: Write one scientific and one poetic metaphor. Follow the guidelines and prepare to present them in class.</p>
6	Nature, Forms and Representation	<p>Field Class Visit to the Botanical Garden of Rome</p>	<p>Reading:</p> <ul style="list-style-type: none"> Kemp, <i>Shaped by Growth: Branches and Spirals</i>, pp. 63-98. <p>Assignments: Prepare to report your impressions after the visit to the Botanical Garden.</p>
7	Review of Contents	<p>Field Class Visit to the National Central Library of Rome</p> <p><i>Additional Source Presentations: Session I</i></p>	<p>Assignments: Personal review of previous readings in preparation for the Mid-Term</p> <p>Review of personal notes on previous readings</p> <p>Prepare to discuss your reflections on Additional Source Presentations I</p>
8	MIDTERM EXAM		
9	Race and Scientific Certainties: The Postcolonial Condition	<p><i>Controversy 3:</i> “Is human nature good or bad?”</p>	<p>Reading:</p> <ul style="list-style-type: none"> 1619 Project: Podcast by Nikole Hannah-Jones - Episode 2: “The Economy That Slavery Built” <p>One of your choice between:</p> <ul style="list-style-type: none"> Homi Bhabha, <i>Mimicry and Nature</i>, pp. 125-133. Carlo Ginzburg, <i>The Europeans Discover (or Rediscover) the Shamans</i>, pp. 83-95. <p>ASP: Sources connected with this week’s contents:</p> <ul style="list-style-type: none"> Marlowe, <i>Doctor Faustus</i>. Vico, <i>The First New Science</i>, Book I, pp. 9-34. Hobbes, <i>The Leviathan</i>, pp. 26-39. The Declaration of Human Rights Leopardi, <i>Dialogue between an Icelander and Nature</i>, pp. 98-104. <p>Assignments:</p>

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			<p>Reflect on one instance in which scientific certainty shows to be partial, questionable, or limited, and prepare to discuss it in class.</p> <p>Prepare for Controversy 3</p>
10	<p>Between Species: Humans Among the Living</p>	<p>In class activity Controversy 4: Do animal, trees, and machines have a "soul"?</p>	<p>Reading: One of your choice between:</p> <ul style="list-style-type: none"> • Braidotti, <i>Post Humanism Life beyond the Self</i> • Haraway, <i>Between Species</i>, Ch. 1 <p>ASP: Sources connected with this week's contents:</p> <ul style="list-style-type: none"> ○ Ovid, <i>Metamorphoses</i>, pp. 278-281. ○ <i>Darwinian Theories of Human Nature</i>, pp. 246-286 ○ <i>Freud: The Unconscious Basis of Mind</i>, pp. 206-226. <p>Assignments: Prepare to discuss your affective relation to one non-human being and relate it with your relation to other beings, pointing out the similarities and differences between them.</p> <p>Group Preparation for Controversy 4</p>
11	<p>Thinking Complexity: Ecosystems and the Environment</p>	<p>Guest Speaker on Environmental and Climate Studies</p> <p>In class activity Controversy 5: "Earth-flatters", "skeptics" and "deceived"</p>	<p>Reading:</p> <ul style="list-style-type: none"> • T. R. New, <i>Insect Species Conservation</i>, "Adaptive management options: habitat re-creation" • Lima, <i>The tree of Life</i> <p>ASP: Sources connected with this week's contents:</p> <ul style="list-style-type: none"> ○ Trewavas, <i>The Green Plant as an Intelligent Organism</i>, pp. 1-18. <p>Assignments: Prepare to discuss your reflections on a case where the analysis of causes and effects leads to complexity.</p> <p>Group Preparation for Controversy 5</p>

12	<p align="center">Artificial vs Natural Codes: Swarms, Robots, and Artificial Intelligence</p>	<p align="center">Field Class Visit to the National Museum of 21st Century Art</p>	<p>Reading: One reading of your choice between:</p> <ul style="list-style-type: none"> • James Kennedy and Russell C. Eberhart, <i>Swarm Intelligence, “Models and Concepts of Life and Intelligence?”</i> • Eric Bonabeau, Marco Dorigo, Guy Theraulaz - <i>Swarm Intelligence_ From Natural to Artificial Systems</i>-Oxford University Press, USA (1999) <p>ASP: Sources connected with this week’s contents:</p> <ul style="list-style-type: none"> ○ Shelley, <i>Frankenstein</i>. ○ Rizzolati, <i>The Mirror Neuron System and Imitation</i>, pp. 55-76. ○ Saitis, <i>Fractal Art: Closer to Heaven? Modern Mathematics, the Art of Nature, and the Nature of Art</i>, pp. 153-163. <p>Assignments: Prepare to discuss in class your reflection on the relations between nature, humans, robots and/or machines.</p>
14	<p>Assessing Our Progress: Review of course contents</p>	<p align="center"><i>Additional Source Presentations: Session II</i></p>	<p>Review of personal notes on previous readings</p> <p>Prepare to discuss your reflections on Additional Source Presentations II</p>
15	<p>FINAL PROJECTS</p>		

SECTION III: CEA Academic Policies

The policies listed in this section outline general expectations for CEA students. You should carefully review these policies to ensure success in your courses and during your time abroad. Furthermore, as a participant in the CEA program, you are expected to review and understand all CEA Student Policies, including the academic policies outlined on our website. CEA reserves the right to change, update, revise, or amend existing policies and/or procedures at any time. For the most up to date policies, please review the policies on our website.

Class & Instructor Policies can be found [here](#)

General Academic Policies can be found [here](#)