# ENV/FSST/SOC 330 - Sustainable Food Production in Italy: Local Traditions and Global Transformation

**Course Syllabus**
**Spring Semester 2022**

**Instructor:** Emily Palm, PhD
**Credits:** 3
**Contact Hours:** 45
**Prerequisites**: None
**Class Hours:** Tuesdays & Thursdays, 10:45-12:15
**Office Hours**: Online via Zoom, Mondays 9:30-10:30
**Email:** emily.palm12@gmail.com
**Lab Fees:** $ 125

## Course Description

There are more than seven billion humans on the planet, each of whom need to eat every day: ever-higher food production is contributing to faster use of non-renewable fossil fuels and environmental degradation. What modes of food production and consumption may be viable, sustainable responses to this problem? What are some alternative models of food production? How are people responding to increasing inequalities relating to food availability? What can we learn from Italian food cultures in terms of sustainability?

This course focuses on the radical increase in food production over the last 70 years and the ecological and social problems it has created, as well as a conversation about the possible solutions that have been suggested: the organic movement, regenerative farming, Slow Food, and the shift towards local food. A critical eye will be cast on these movements and analysis of their ability to change the trajectory of the global food production system, which is rapidly heading for collapse.

**Learning Outcomes and Assessment Measures**
By the end of the course, students will be able to:

| **Learning Outcomes** | **Assessment Measures**<br><br>**Course requirements that will be used to assess students' achievement for each learning outcome** |
|---|---|
| *Define* principles, frameworks, and indices (from various disciplines) for measuring progress toward a sustainable agriculture and society; | Reading assignments, group discussions, individual current event presentations, midterm exam and final project |
| *Analyze* aspects of production, distribution, and consumption of food to determine their sustainability; | Life Cycle Assessment activity and group debate activity |
| *Compare and contrast* the origins of the alternative food movements in Italy; | Group debate activity and individual reflective writing assignment |
| *Integrate* theory and practice as it applies to modern-day Italian food ways and the use of common spaces; | Group debate activity, Urban Garden work, and the final project |
| *Define* sustainability on a local, national, and global scale using a multidisciplinary and multifunctional approach. | Midterm exam, Life Cycle Assessment activity and the final project |

**Course Materials**
Readings
All required readings will be posted as individual PDFs for students to access on Moodle from the first day of the course. Additional optional reading assignments may be added during the course in response to interest and class discussions, but will be clearly indicated as optional.

**Assessment**

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| Attendance | 10% |
| Reflective Writing Assignments (RWA) | 20% |
| Group debate | 15% |
| Weekly quizzes | 15% |
| Oral Current Events | 5% |
| Midterm Exam | 15% |
| Final Service Learning Project/Garden | 20% |

**Grading**
Letter grades for student work are based on the following percentage scale:

| Letter Grade Range | Numerical Score Equivalent | Student Performance |
|---|---|---|
| A | 93% - 100% | Exceptional |
| A- | 90% - 92% | Excellent |
| B+ | 87% -89% | Superior |
| B | 83% - 86% | |
| B- | 80% - 82% | |
| C+ | 77% - 79% | Satisfactory |
| C | 73% - 76% | |
| C- | 70% - 72% | |
| D+ | 67% - 69% | Low Pass |
| D | 63% - 66% | |
| D- | 60% - 62% | |
| F | 59% or less | Fail (no credit) |

**Course Requirements**
Grades are based on the midterm and final exam, service-learning project, presentations, and participation. Grading rubrics for each assessment type will be provided on the course Moodle.

*Attendance (10%)*
For a spirited discussion, students' active attention and participation are required. Class attendance grades are based on four points:

1. Being on time in class and respectful behavior
2. Collaborating with peers during paired and group discussions
3. Required readings: readings should be done before class the day they are assigned. In order to show that they have done the readings, students **must** login onto the course Moodle and access the assigned readings before the start of class. The weekly quizzes will include material from the readings.
4. Attending at least 2 office hours during the semestre, either in person or via Zoom

*Reflective Writing Assignments (RWA) (20%)*
Four reflective writing assignments will be assigned during the semester as a way for students to summarize the ideas presented during class discussions and guest lectures and put them into the context of the topics from lecture and readings. Each RWA will have a specific question to address and should be a maximum of 2 pages in length.

*Group debate (15%)*
Students will participate in a class debate on alternative food movements in Italy (explained in Week 3 and scheduled for Week 8). Several topics will be offered as suggestions additional topics will be welcome during the class discussion on the assignment in Week 3.

*Weekly quizzes (15%)*
An online 10-question quiz will be assigned on the Thursday of each week. It will be available for 24 hours starting at the end of the class sessions (Thursdays at 12:15). Questions will cover material from both the lectures and the readings from the previous week.. They will consist of true/false, multiple-choice and short-answer questions. There will be 9 quizzes total over the course of the semester.

*Oral Environmental Current Event (pass/fail)* (5%)
At the beginning of class, the assigned student will be asked to give a five-minute report on an environmental piece of news related to the lecture topic from a near-middle online newspaper. The chosen media must be from the current week or from the previous one.
(https://guides.lib.umich.edu/c.php?g=637508&p=4462444)

*Midterm Exam (15%)*
The midterm exam will be a mix of short-answer, multiple choice, true/false and reflective writing on the topics covered in the first five weeks of class. It will be held in-class Week 5, March 10. *No alternative exam dates or times will be offered.*

*Final Exam: Final Service Learning Project/Garden (20%)*
In lieu of a final exam, students will be asked to prepare a 1-year, 5-year and 10-year plan for the Orto Sole garden space following a site visit during Week 7 of the course. In pairs they will develop a plan that incorporates the topics presented throughout the course and present their ideas to the class during Week 10. Individually students will be expected to submit a final assessment reflecting on the projects presented by the entire class, explaining feasibility of the projects (what do they see as potential limitations to the successful implementation), and reflecting the most and least often mentioned ideas – what does it say about our current culture and approach to agriculture, food security and shared use of community spaces?

Additional Course Information
All the activities, topics, lectures, and readings may be subject to change, always with due warning.

**Submitting Work Late and Incomplete/Longer assignments**
If students submit work after the deadline, they will incur a 5% grade deduction for each working day the assignment is late. Working days are Monday through Friday. To avoid penalty, students must get approval for an extension at least one day prior to the deadline. The instructor will not accept work that is later than seven working days. If students are absent, they must submit assignments on moodle and/or email the assignments to the instructor to avoid penalty. If assignments are shorter or longer than the assigned number of pages, there will be a 5% grade deduction for each missing or extra page.

Attendance Policy

Absences for Covid-related circumstances: in order to keep the entire Umbra community healthy and to comply with local laws, you may not enter the Umbra premises if you have a temperature of 37.5 °C (99.5 °F) or higher. For all students who display any relevant symptoms, the procedure will be the following:

1. avoid going to class;
2. immediately notify the Student Services staff;
3. be prepared to get tested for COVID at a local pharmacy within the day.

The following additional conditions apply:

- Students may attend classes remotely and without academic penalty via Zoom or Skype but only if they are waiting for the test to be scheduled or performed.
- Students with a positive test result (or who have been in close contact with someone who tested positive) must follow all applicable quarantine or isolation requirements and may attend classes remotely, without academic penalty.
- Students with a negative test result are allowed to attend class in person.

It is Institute policy that students with symptoms be tested. Any student refusing testing will not be admitted to the Institute under any circumstances and any absences will not be considered eligible for an extra absence for any classes missed. In other words, refusing a test and staying in one's apartment is considered an unexcused absence.

Class attendance (in person or through live connection) is mandatory. Students are allowed two "free" absences, which do not need to be justified. However, it is considered common courtesy to inform the instructor of your absence when possible. It is the students' responsibility to keep them in case of real necessity (sickness or any other unforeseen inconvenience that may prevent students from being in class).

**Additional absences relating to illness may be approved by the Academic Director but only if a medical certification is provided.**

Each additional absence, unless for a very serious reason, will lower the students' grade by one grade level (i.e., a final grade of a B+ would be lowered to a B). If students miss class, they are responsible for obtaining class notes from other students and/or for meeting the professor during office hours. It is also the policy of the Institute that any student who has eight or more absences automatically fails the class.

Except in the case of medical emergencies, absences are not accepted when tests are scheduled; tests cannot be made up. Furthermore, scheduled times and dates indicated for exams, quizzes, oral presentations, and any other graded assignments cannot be changed for any reason. Even if more sections of the same class are activated, students may only take exams during the scheduled times and dates for the section they are enrolled in.

Academic Integrity

All forms of **cheating** (i.e., copying during exam either from a fellow student or making unauthorized use of notes) and **plagiarism** (i.e., presenting the ideas or words of another person for academic evaluation without acknowledging the source) will be handled according to the Institute Academic Policy, which can be found in the Academic Policies and Conduct Guidelines.

Classroom Policy
Students are expected to follow the policy of the Institute and demonstrate the appropriate **respect** for the historical premises that the school occupies. Please note that **cell phones** must be turned off before the beginning of each class. **Computers and other electronic devices** cannot be used during class lectures and discussions without the specific permission of the professor.

Note: This course may have one or more meetings in Umbra's community garden, Orto Sole, located in Via delle Prome 17.

## Schedule of Topics, Readings, and Assignments

***WEEK 1***

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| Tuesday,<br>Feb. 8 | *Sustainability and Food*<br>This lecture will define 'sustainability' and begin our conversation on how it relates to food production and its availability and quality. The main goals of sustainability as well as the indices that are currently used to evaluate it will be previewed and used as a framework on which to base the subsequent lectures. Also in this first class, the instructor will explain the structure of the course, including expectations for assessments, how to access course materials and garden participation. The current event presentations will be explained and assigned (scheduled to begin on the following Tuesday).<br><br>Readings<br>Nautiyal H and Goel V (2021) Sustainability assessment: Metrics and methods. In: Methods in Sustainability pp 27-45<br><br>Activities<br>*Service Learning Project*<br>Students will plant tomato seeds during the last part of the lecture period.<br><br>At home activities:<br>Student bios<br><br>More abundance with less work: https://youtu.be/VXcgFM5af_s |
| Thursday,<br>Feb. 10 | *Modern Agriculture versus Regenerative Systems*<br>Between 1943 and the late 1970s, a combination of new plant varieties and the widespread use of fossil fuel-based fertilizers and pesticides dramatically raised world food production and changed the relationship between the industrialized world and the developing world. The global food system is the result of globalization and industrialization applied to food and agriculture.<br><br>Assigned Readings<br>Kaiser M, Goldson S, Buklijas T, Gluckman P, Allen K, Bardsley A, Lam ME. (2021) Towards Post-Pandemic Sustainable and Ethical Food Systems. *Food Ethics* **6**: 1-19. |

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| | Rathore I, Shiva V, Thomas E, Tarafdar JC. 2018. A comparison on soil biological health on continuous organic and inorganic farming. *Horticultural International Journal* **2**: 256-262 |

**WEEK 2**

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| Tuesday, Feb. 15 | *Climate Change and Agriculture*<br>In 2016, the Paris Agreement on climate change entered into force, addressing the need to limit the rise of global temperatures. The class will discuss how agriculture is one of the most weather-dependent enterprises, including the impact of recent years reports of extreme weather which seem more frequent than in the past.<br><br><u>Readings</u><br><br>Food and Agriculture Organization (FAO). 2017. 'Crop Production and Climate Change'. In: Climate-Smart Agriculture Sourcebook. pp 1-19.<br><br>Orlandi F, Rojo J, Picornell A, Oteros J, Pérez-Badia R, Fornaciari M. 2020. Impact of climate change on olive crop production in Italy. *Atmosphere* **11**: 595<br><br>***Current Events Presentations Begin** |
| Thursday, Feb. 17 | *Kiss the Ground: Documentary and assessment*<br><br><u>Reading</u><br>Tahat MM, Alananbeh KM, Othman YA, Leskovar DI. 2020. Soil health and sustainable agriculture. *Sustainability* **12**: 4859.<br><br>**Reflective Writing Assignment 1:** Documentary reflection and fact check comparison to the literature |

**WEEK 3**

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| Tuesday, Feb. 22 | *Service Learning Project*<br>*Visit Orto Sole*<br>During this visit, the students will learn about the space's history and relevance to the local community. In pairs, they will develop a 1-year, 5-year and 10-year plan for the space in which they will project the garden's use and purpose both for the program and within the context of the local community over both the short and long term. Students will be expected to incorporate the various topics discussed over the course of the class such as food security, social and health aspects of community garden spaces and land use as they describe their plan for the garden.<br><br>**RWA 1 DUE** |
| Thursday, Feb. 24 | *Organic Agriculture: From a Movement to an Industry.* |

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| | What is the history of organic food production and labelling? The class will discuss the positive aspects of organic agriculture but will also offer a critique of the "supermarket pastoral" around "natural" food.<br><br><br><br>Readings<br>Dall'Asta M, Angelino D, Pellegrini N, Martini D. (2020) The nutritional quality of organic and conventional food products sold in Italy: Results from the food labelling of Italian Products (FLIP) study. *Nutrients* **12**: 1273.<br><br>Pollan, M. (2006) The Omnivore's D"Supermarket Pastoral," pp. 134-140<br><br>*Group debate activity explained and assigned.* Topics will/could include: Organic/conventional farming, GMOs, the Slow Food movement, the idea of terroir |

**WEEK 4**

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| Tuesday, Mar. 1 | *Agroecology and Agroforestry*<br>Agroecology is based on applying ecological concepts and principles to optimize interactions between plants, animals, humans and the environment.<br><br>Readings<br>Browse:<br>http://www.fao.org/forestry/agroforestry/en/<br>http://www.fao.org/3/i9037en/I9037EN.pdf<br><br>Pierluigi P, Camilli F, Rosati A, Mantino A, Mezzalira G, Dalla Valle C, Franca A, Seddaiu G, Pisanelli A, Lauteri M, Brunori A, Re GA, Sanna F, Ragaglini G, Mele M, Farrario V, Burgess PJ. (2019) What Is the Future for Agroforestry in Italy? *Agroforestry Systems* **93**: 2243-2256<br><br>Torralba, Mario, Nora Fagerholm, Paul J. Burgess, Gerardo Moreno, and Tobias Plieninger. 2016. "Do European Agroforestry Systems Enhance Biodiversity and Ecosystem Services? A Meta-Analysis." *Agriculture, Ecosystems & Environment* **230** (August): 150–61. |
| Thursday, Mar. 3 | *The Truffle*<br>*Guest Lecture: Zach Nowak - The Truffle Hunt/Tasting<br><br>Readings<br>Calvo R, Prestifilippo M, Venturella G. (2020) Truffle gathering and trade in the Monti Sicani Regional Park (Sicily, Italy), a new perspective for the local economy and for employment in economically depressed areas. *Plant Biosystems-An International Journal Dealing with all Aspects of Plant Biology* pp.1-9. |

**WEEK 5 - MIDTERM**

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| Tuesday, Mar. 8 | *Social Farming, Consumption, Food and Public Health.*<br>The discussion will look at different ways that access to green space and interactions with nature can impact interpersonal relationships, our ideas about food and our mental health.<br><br><u>Readings</u><br>Loue S, Karges RR, Carlton C. (2014) The Therapeutic Farm Community: An Innovative Intervention for Mental Illness. *Procedia - Social and Behavioral Sciences* **149**: 503–7.<br><br>Spano G, D'Este M, Giannico V, Elia M, Cassibba R, Lafortezza R, Sanesi G. (2021) Association between indoor-outdoor green features and psychological health during the Covid-19 lockdown in Italy: A cross-sectional nationwide study. *Urban Forestry and Urban Greening* **62**: 127156. |
| Thursday, Mar. 10 | *MIDTERM Exam* |

**WEEK 6**

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| Tuesday, Mar. 15 | *The Biggest Little Farm: Documentary and Discussion*<br><br><u>Readings</u><br>https://www.biodynamics.com/biodynamic-principles-and-practices<br>https://www.biodynamics.com/farm-individuality<br>https://www.biodynamics.com/preparations<br><br>**Reflective Writing Assignment 2:** Documentary reflection and comparison to the literature |
| Thursday, Mar. 17 | *Biodynamic Farming*<br>This lecture explores the concept of biodynamic farms looking at an example case in Italy<br>https://vinidifilippo.com/en/biologico-biodinamico/<br><br><u>Readings</u><br>Chalker-Scott L. 2013. The science behind biodynamic preparations: a literature review. HortTechnology **23**: 814-819.<br><br>Heimler D, Vignolini P, Arfaioli P, Isolani L, Romani A. (2011) Conventional, organic and biodynamic farming: differences in polyphenol content and antioxidant activity of Batavia lettuce. *Journal of the Science of Food and Agriculture* **92:** 551-556.<br><br>**RWA 2 DUE** |

**SEMESTER BREAK**

**WEEK 7**

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| Tuesday, Mar. 29 | ***GUEST LECTURE:*** **Mirko Calcabrina (biodynamic farmer)**<br>**Reflective Writing Assignment 3:** Reflection and comparison to the literature biodynamic farming |
| Thursday, Mar. 31 | *Orto Urbano visit*<br><br>Readings<br>Kirby CK, Specht K, Fox-Kämper R, Hawes JK, Cohen N, Caputo S, Ilieva RT, Lelièvre A, Ponizy L, Schoen V, Blythe C. 2021. Differences in motivations and social impacts across urban agriculture types: Case studies in Europe and the US. *Landscape and Urban Planning* **212**: 104110 |

**WEEKEND FIELD TRIP**

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| Sunday, Apr. 3 | *Class field trip to Vivai Belfiore*<br><br>*Lastra a Signa (near Florence)*<br><br>Details regarding the trip will be provided by Week 6 of the semester |

**WEEK 8**

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| Tuesday, Apr. 5 | *Life Cycle Assessment*<br>The concept of Life-Cycle Analysis (LCA) and the true food miles (and carbon footprint) of "local" foods will be introduced; Case study: the Jellyfish Barge project and salt water based agriculture on a local scale<br><br>*Life Cycle Assessment Activity*: In pairs, students will try their hand at evaluating two types of vegetable production methods using the Life-Cycle Assessment framework (local/conventional soil-based production with the method proposed in the Jellyfish Barge project) indicating the inputs and outputs of these two systems and their relative impacts on the environment and sustainability<br><br>Readings<br>Iyyanki V. Muralikrishna and Valli Manickam. (2017) Chapter Five - Life Cycle Assessment, In: Environmental Management pp 57-75, Eds. Butterworth-Heinemann,<br><br>Lovarelli et al., (2019) Improvements to dairy farms for environmental sustainability in Grana Padano and Parmigiano Reggiano production systems. *Italian Journal of Animal Science* 18: 1035-1048 |

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| | **RWA 3 DUE** |
| Thursday, Apr. 7 | *Group debates*<br>Reflective Writing Assignment 4: Reflection on the debate experience - what were your impressions of the other side's arguments? At the start of the debate were you already personally on one side or the other and did the process (research and conversation) change your mind in some way? |

**WEEK 9**

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| Tuesday, Apr. 12 | *Urban Agriculture*<br>Can the countryside and the city grow to be closer? Today, we will rethink the relationship between urban dwellers and their source of food. Can cities become more sustainable by growing food? Can you forage a meal?<br><br><u>Readings</u><br>Giacchè G, Paffarini C, Torquati B.(2017) Cultivating changes: Urban Agriculture as a tool for socio-spatial transformation. *Future of Food:Journal on Food, Agriculture and Society* 5 (1): 8–20.<br><br>Nugent, Rachel A. (1999) Measuring the Sustainability of Urban Agriculture. In: *For Hunger-Proof Cities: Sustainable Urban Food Systems*, edited by Mustafa Koc and International Development Research Centre (Canada), 95–102. IDRC.<br><br>**RWA 4 DUE** |
| Thursday, Apr. 14 | *Waste, Food, and the Environment*<br>During this lecture, the class will analyze the social and environmental costs of food waste at a global level, including examples of food recovery actions from Italy.<br><br><u>Readings</u><br>Stuart, Tristram. *Waste: Uncovering The Global Food Scandal.* W. W. Norton & Company, 2009., pp. xv-xxii;<br><br>Baglioni S, De Pieri B, Tallarico T. (2017) Surplus food recovery and food aid: The pivotal role of non-profit organizations. Insights from Italy and Germany. *Voluntas: International Journal of Voluntary and Nonprofit Organizations* 28, n. 5 2017 2032–52. |

**WEEK 10**

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| Tuesday, Apr. 19 | *Final Presentations on Garden Plans* |
| Thursday, Apr. 22 | *Final Presentations on Garden Plans*<br>*Brief whole class discussion – bringing it all together* |

**FINAL EXAMS (April 25-28)**

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| Apr. 28 | **Final exam assignment:** Reflections on the feasibility of projects presented, the topics that were frequently brought up or missed by the group as a whole. This final assignment needs to be submitted online by April 28 by midnight. |

**ENV/FSST/SOC 330: Sustainability and Food Production in Italy**
**Service Learning Project**
**Syllabus Appendix**
**Spring 2022**

**What is service learning?**

Service learning is a type of experiential education integrated into a course in which:

- students engage in an organized activity or project aimed to address a community need that is identified in collaboration with the community partner;
- students critically reflect on the link between the experience in the community, course content, and the learning goals; and
- there is reciprocal learning both by the students and by the community partners.

Students will need a certain degree of flexibility, creativity, and self-initiative to realize a service learning project. Organization and open communication in-class with the professor and classmates will be key to student success.

**Service Learning Project Overview**

**Community Partners**

Starting in September 2021, the Umbra Institute assumed management of Orto Sole, an urban garden on Perugia's north facing hillside. The aim is to revitalize the garden and develop it as a living laboratory for the Institute's Food, Sustainability and Environment program. The Institute will use the green urban hillside as its "outdoor classroom": continuing the garden's use as a didactic space, exploring new agricultural technologies, and sponsoring community-engaged learning projects with local partners. Collaborations are currently being developed with nearby elementary and middle schools, a local non-profit organization that distributes food to those in need, and the Department of Agricultural, Food and Environmental Sciences of the prestigious University of Perugia.

**Project Description**
The project is divided in two parts. At the beginning of the semester, thanks to the collaboration with the Seed Bank of University of Perugia, students will plant seeds of different local varieties of tomatoes and collect data on their growth under local conditions. They will work at the Orto preparing the soil and will eventually plant the tomato starts in the garden to collect data on how the tomato plants respond to the environment. In addition, students will spend time at the Orto Sole to make observations of site characteristics with special attention to the integration of the garden space with the neighboring apartments.

**Organization, Expectations, and Roles**
Students will be required to meet two times outside of class to work at Orto Sole at their assigned date and time. The assigned teams will be created according to students' course schedules and they will be communicated after the first week of lessons. The assigned team dates and times are considered mandatory field trips. A doctor's note is required for an absence. The service learning final grade will be lowered by 5% for each unjustified absence.

Each student will record their own project contributions for the Final Reflection and EngageGames presentations at the end of the semester.

**Student Learning Outcomes**
Through this project, students will:

- discover how to apply sustainable gardening in a community setting,
- improve teamwork and multitasking skills, and
- gain a better understanding of the host culture and community.

**Final Reflection**
Each person will prepare a final reflection, which will provide a summary of their experiences.

Guidelines:

- 1.5/2 pages
- 1.5 Spaced, Times New Roman, font size 12
- Must contain description of individual work, achievements, problems encountered, suggestions for future Umbra students, and conclusions.
- Final reflection sent to Prof Palm (emily.palm12@gmail.com) due on Monday, Aprile 25th.

**Community EngaGAMES Presentation**
During the Special Academic Events week, the class will give a 20-minute presentation to the Umbra community at the Community EngageGAMES Presentations. The class will work together to share a few words about the course and project, lead a meaningful activity that focuses on the project, and provide a few thoughts about their experience with the project and partner. Students will receive guidelines and presentation order after the mid-semester break. Participation in this event is MANDATORY and an integral part of the community engagement grade.

**Grading Rubric**

The service learning project is worth a total of 20% of the final course grade, which will be divided into four categories:

1. Participation in orto activities & final report (3 visits in total – 15%)
2. Community EngageGAMES Presentation (5%)