ABSTRACT: Our modern day industrial food system is negatively affecting our environment and social stability. While producing more than enough food for our country it is ironically causing cities to have food insecurity due to lack of access and unbalanced distribution. With more than 80% of our population living in urban environments it makes sense to integrate food production amongst the heart our population. Urban Agriculture acts as a multifunctional solution; it provides locally grown fresh and healthy produce to the people who have been deprived of access, provides employment to many lower-class citizens residing in cities, offers education through a means of community, school, and library gardens, contributes towards public health via access to nutritious food and community exercise, it beautifies run-down/eyesore vacant city lots, and finally, it empowers communities’ to have control over the food they consume. With urban farming being a unique solution to our food system and urban environments’ problems, a student-run class was taught in conjunction with this thesis at UC Santa Cruz via the Education for a Sustainable Living Program. The student-run course focused on urban farming and homesteading and its potential towards making the University and Santa Cruz Community more sustainable. A community based food trading network, SlugGrub, was developed as a class project.

KEYWORDS: Urban Agriculture, Urban Farming, Food Security, Community Gardening, Food Justice, ESLP, Sustainable Food Systems, Sustainable Education
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1. Introduction

Our current food system is failing us on several different levels. Most of us Americans are able to go to the grocery store and purchase the same food year round. What happened to seasons? Sometimes it’s from America but most of the time it’s from countries thousands of miles away. The food is produced by mega farms, fueled by oil and subsidies, and run by corporations (Holt-Gimenez 2009). What has happened to the family farm? Why do we not know who is growing our food and what exactly is going on in our meat industry? With our conventional farming practices being geared towards our system’s two goals, output and profit maximization, unfortunately, many environmental and social implications have been overlooked (Gliessman 2007). Most Americans do not realize that this system is not only destroying our environment but also our livelihoods—health and employment, culture and our global neighbors. So what can we do as individuals, neighbors, and communities that will have a direct affect on deciding what ends up on our plates and ensures a path towards healthy consumption for future generations? The answer is taking production into our own hands by means of constructing food producing gardens within our immediate access.

To grow your own food gives you a sort of power and it gives you dignity. You know exactly what you’re eating because you grew it. It’s good, it’s nourishing and you did this for yourself, your family and your community. (Karen Washington, 2000)

With eighty percent of the U.S. population living in cities, urban agriculture in the past several years has become a popular and effective way of bringing change from the bottom up (Brown 2003). Our current industrial food system relies on massive amounts of resources not only to produce the food but also to distribute it across the country. The outcome is a lot of unrenewable energy usage, tons of pollution, and food wasted due to travel (Brown 2003). In addition to the problems caused by our current food system, cities are also putting a huge burden on our environment—“Urban growth has tumultuous effects on water, land, and life—because cities have metabolisms. They take in water, food, oxygen (and more) and discard sewage, garbage, carbon dioxide, and all sorts of other pollution” (McNeill 2001). The unique roll urban farming plays as a solution is that it helps solve so many environmental and social problems caused by our current food system and urbanization.

The first part of my thesis will address the potential of urban agriculture and how it can be used as a multifunctional solution. It is set up in a way that will describe the problems that exist in our cities—environmental and social, how urban farming is the solution, challenges it faces, and examples of how it’s already in progress. The latter part will inform the readers of my own personal experience of integrating urban agriculture into university level education at U.C. Santa Cruz via a student run organization, Education for a Sustainable Living Program (ESLP).

2. Food Insecurity in Our Cities

The news we always hear about food crises around the world, but we seldom hear about them at home. There has been a growing food crisis going on in our inner city neighborhoods for several years now, often depriving these neighborhoods of access to fresh food and education regarding nutrition and healthy eating. In order to understand what it means to be deprived of food security me must define it—“Food security is all persons in a community having access to
culturally acceptable, nutritionally adequate food through local, non-emergency sources at all times” (Brown, 2003). A study conducted by the University of Connecticut’s Food Marketing Policy Center found out that there were “30% fewer supermarkets in low-income areas than in higher-income areas, and [that] these low-income areas had 55% less grocery store square footage than their wealthier counterparts” (Holt-Gimenez 2009). We term these supermarket/food store deprived communities in urban low-income areas as “food deserts.” It is also not a coincidence that these communities are dominated by people of color. In West Oakland, California, a predominantly African-American community, “the diabetes rate is four times greater than the diabetes rate of surrounding Alameda County” (Holt-Gimenez 2009). It is sad to know that these communities of color are literally being deprived of access to fresh food. Brahm Ahmadi of “People’s Grocery”, a community organization in Oakland, CA focusing on food justice, states that today, in many urban communities of color it is easier to buy a gun than it is to buy fresh produce (Holt-Gimenez 2009).

In Novella Carpenter’s novel, Farm City, she writes about her experience erecting an urban farm in her vacant lot, next to her apartment, in one of the most crime ridden parts of East-Oakland, California. Ms. Carpenter had just moved from Seattle and wanted to live in a neighborhood that provided a challenge and a unique scene for learning what goes on in some of the most deprived and oppressed American communities. She started her urban farm as a means just to grow food and have fun, but as she learned of what was going on her community, her goal became geared towards producing an urban farm that could be open to the community. It East Oakland there will be areas where you cannot buy fresh produce within a 2 mile-radius. The only places that sell food are corner stores, which usually consist of soda, potato chips and other processed foods, and not to mention tons of liquor and tobacco products (Carpenter 2010). It is especially hard for the citizens of these communities to travel to grocery stores if they do not have their own car or rely on walking or public transportation—especially if you are working most of the day or have young children to take care of. Throughout her novel she tells stories of her challenges living in such a deprived community, but also of her joy connecting with her neighbors, showing young adults for the first time what a pig or even a rabbit looks like. It is not an exaggeration that there are communities out there that are so oppressed and trapped that they have never really been able to experience full access to fresh and healthy food. And maybe it’s this lack of access and knowledge of healthy eating that is a major factor in preventing these communities from succeeding.

3. Loss of Knowledge: Where Our Food Comes From and How It’s Produced

While understanding how our current food system is failing us, it is important to question how we have gotten to the point where the general public does not know where our food comes from and especially how it is produced. Our conventional agriculture system relies on seven practices: intensive tillage, monoculture, irrigation, application of inorganic fertilizer, chemical pest control, genetic manipulation of domesticated plants and animals, and ‘factory farming’ of animals (Gliessman 2007). Each of these practices has a direct negative effect on our environment.

Intensive tillage might speed up the production of crops but it releases tons of organic matter, opens up carbon sinks, and increases soil erosion. Monoculture allows an easy target for pests and takes away from providing a balanced agroecosystem. Conventional irrigation is a huge problem; so much water is wasted due to inefficient watering and transportation. Several
farming regions around the country are going dry to due over drafting our aquifers and tapping into our rivers at an unsustainable rate. The application of inorganic fertilizer depends heavily on fossil fuels and is usually over used, causing runoff into our streams, rivers, lakes, and eventually our ocean. This runoff of fertilizer can stimulate too much plant and algae growth that depletes the water of oxygen and therefore makes it uninhabitable for anything else—known as eutrophication. The use of chemicals for pest control also relies heavily on fossil fuels and causes a growing dependence due to the natural system continually overcoming its effects—pests developing resistance. In addition to it being an always growing dependence it also can leach into our underground aquifers where we pump for our drinking water, causing farmers and nearby communities to have health issues. The genetic manipulation of domesticated plants and animals have been argued to be necessary for feeding the world but there are many worries including the privatization of seeds, the GMO’s disrupting natural ecosystems, loss of genetic diversity and causing the evolution of more aggressive weeds and pests that can no longer be naturally controlled. And finally, Factory Farming is the cause of most of our food health issues. Animals are raised in CAFOs (Confined Animal Feeding Operations) where they are cramped so tightly together that they cannot move, are often deprived of sunlight, pumped with antibiotics to ward off diseases, and are “fed highly processed feed, supplemented with all sorts of hormones and vitamins” (Gliessman 2007). These CAFOs are argued to be the cause of transporting harmful pathogens, such as Salmonella and E. Coli, that end up contaminating the food we eat. (Gliessman 2007)

All of these practices make our food system unsustainable, and they all contribute towards a system that allows any kind of food to be available year round sold which are then sold in our supermarkets. It allows foods to be altered in so many ways that we no longer know exactly what we’re eating or where it came from (Vileisis 2008). This food system has also created mega farms that have pushed out small-scale farmers and have exploited hardworking lower-class people of developing nations (Gliessman 2007). It has also deprived farming of it’s culture and has turned it into pure business without any values or social relationships that once allowed us to be connected with our food and its producers (Gliessman 2007). In order for us to have access to healthy foods we need to no only educate ourselves on why our current food system is damaging to us and our environment but also bring the production back to a small and local enough scale where we can see how our food is produced and who produces it. We need to have a system where we can meet or at least know of who is producing our food and therefore can recreate that trust of knowing we are being fed healthy food. One way of doing this is by integrating food production in our cities where 80% of us live—it is known as Urban Agriculture and is already becoming quite a popular alternative towards a sustainable food system.

4. The Potential for Urban Agriculture

With the growing awareness of how our industrial food system has negative environmental, social, and health effects, one “bottom up” solution, known as Urban Agriculture, has become a very effective way of contributing towards a sustainable food system as well as solving many environmental, social and health issues that occur in urban environments. Urban Agriculture is defined as the “growing, processing, and distributing of food and other products through intensive plant cultivation and animal husbandry in and around cities.” Urban Agriculture is a solution that allows everyone in a city to contribute towards food justice and food sovereignty—“Growing our own food is perhaps the most direct and transparent means of
creating the food delivery system that is based on human need rather than corporate profit” (Holt-Gimenez 2009). This section will focus on the different types of urban agriculture and ways our cities are already practicing them.

4.1 Commercial Farms

Small-scale farms have found many ways to take place inside a city. The most common way is by converting unused land or vacant lots. With our most recent economic crisis, cities across the country have thousands of vacant lots; Chicago alone has 70,000+ vacant parcels of land (Brown 2003). In the beginning of 2010, San Francisco drafted legislation that would encourage developers to occupy vacant lots that would be used for urban farms or other “green developments” until the real estate slump recovered. This could be risky if and when the funding is there for development, but the city hopes that many of these green developments will remain permanent via community support and later down the road incentives (King 2010).

Some small-scale urban commercial farms are already in full swing. In Milwaukee there is the “Growing Power Farm” which is located in a working-class neighborhood on the city’s northwest side, less than a half a mile from the city’s largest public-housing project (Royte 2009). The farm consists of 14 greenhouses crammed onto a 2-acre lot. Inside the greenhouses there is an intense growing operation consisting of 25,000 pots as well as in-ground fish tanks that are stocked with tens of thousands of tilapia and perch—the nutrient rich fish water is pumped into the garden beds, offering natural-onsite fertilizer. Outside there are chickens, ducks, heritage turkeys, goats, and beehives. In addition to the producing operation there is a massive composting station that takes in city food scraps and with helps of worms, is turned into nutrient rich compost/fertilizer. The 2 acre farm provides fresh healthy food to 10,000 urbanites—“via an on-farm retail store, in schools and restaurants, at farmers’ markets and in low-cost market baskets delivered to neighborhood pick up points” (Royte 2009). The farm also employs many people, some from the nearby housing project and also acts as a city recycling center for a substantial amount of its food waste. In addition, it also provides workshops for low-income youth interested in urban agriculture and professional training regarding “cutting-edge food production processes such as organic gardening, bee keeping, aquaculture and animal husbandry, all which can be adapted to small urban places” (Holt-Gimenez 2009).

In the book, “The Vertical Farm,” Dr. Dickson Despommier argues that we will need to adapt vertical farming as means to feed the 21st century world. Vertical farming is still in the design stages but it consists of building a green building that incorporates many food producing practices such as aquaponics—the simultaneous growth of plants and animals, as well as green building technology, such as a grey water system—recycling the building’s water on-site (Despommier 2010). This very well could be the next phase of urban farming.

4.2 Private Businesses

Private businesses ranging from huge corporations to hotels and restaurants have also caught on to the urban farming trend. Several corporations such as Google, Toyota, and PepsiCo have started garden plots next to their office buildings/manufacturing plants. Google has done it because the culture of its employees warrants it but Toyota and PepsiCo started garden plots because of a different reason. Due to the economic crisis, these corporations and ones similar created on-site food producing gardens as way to help out with the pay-cuts and tough times.
Workers are able to bring home the fresh produce and in some cases the food is incorporated into the companies’ cafeterias (Severson 2010).

In Long Island City, Queens a for-profit urban farm called Brooklyn Grange specializes in rooftop gardens. This company is in partnership with local restaurants which they sell to as well as local farmers’ markets. It’s a small urban farm company but it shows the beginnings of for-profit urban farms working with restaurants to create a “farm-to-table” system (Cardwell 2010).

Several hotels are starting to erect small gardens on top of their roofs, growing food to be used in the restaurant, as well as grapes for wine, and beekeeping for honey to be used in cocktails and desserts. The Chicago Marriott Downtown Magnificent Mile has its own garden but also takes things a step further by curing its own meats, making its own cheese and pasta, and even allowing guests to help stomp grapes in the lobby to create wines (Mohn 2010). On its rooftop garden they have beekeeping that supplies honey that is used in their “Rooftop Honey Wheat Beer,” made in partnership with a local brewery (Mohn 2010). The growing trend of restaurants and hotels grasping the idea of producing foods in cities is a sign of urban agriculture potentially having a for-profit scene.

### 4.3 Food not Lawns

The most common form of Urban Farming takes place in private residences’ yards, balconies, decks and rooftops. People have been doing it for years but it’s starting to become a widespread attraction for the common folk. *Farm City*, as talked about earlier is a New York Times Best Seller—people are starting to find growing their food whether it is in their window sill or in their backyard to be trendy amongst the important reasons. Not only do backyard farms provide healthy fresh food for your personal consumption but it is also an attraction towards your neighbors and community. Novella Carpenter’s urban farm always attracted community members to stop by whether to help out, ask for advice or just marvel at the site (Carpenter 2010). In addition to producing your own food, home gardens offer beauty and creativity to your own personal space as well as to your neighborhood. It also offers an alternative to having a lawn. The reoccurring theme of urban agriculture is taking up un-used space and turning it into food producing land.

### 4.4 Community Gardening

Community gardens are typically large lots of land that have been divided into smaller plots for individual household use. The lots in general can be owned by institutions, a land trust, a community group, private ownership or even the city (Brown 2003). The divided lots are usually tended by families either for personal consumption or as their own private business for selling at a local farmers’ markets. Some plots will be owned by local businesses and the food is produced as a form of charity for the local food bank or low-income families in need. The largest community garden used to be located in South Central Los Angeles, CA. After the L.A. riots a local non-profit started a community garden project that consisted of several hundred plots. They were predominantly managed by poor Latin-American families. Theses gardens became these community members’ livelihood. Unfortunately bureaucracy got in the way and the City of Los Angeles ended up selling back the land to the original developer, causing the gardens to be demolished. Till this day it is unfortunately a vacant lot. (The Garden 2008).
Several community gardens share the theme of empowering communities via allowing them to control how their food is produced and distributed and educating them on nutrition, food justice, environmental, and social issues in the city and in the country. “City Slicker Farms” in West Oakland, California has five urban farms on what used to be vacant lots and runs a network of 60+ backyard gardens (Kirby 2008). Their mission is to help build and maintain backyard farms in their community, set up neighborhood markets to distribute the produce grown in their network of backyard farms, and to educate both youth and adults about urban agriculture and food justice (Kirby 2008).

4.5 Schools and Libraries

It is absolutely essential to teach kids about healthy eating and nutrition at an early age so they can grow up to be healthy conscious consumers. The federal government feeds breakfasts and lunches to 32 million schoolchildren at a cost of about $14 billion a year, while “obesity and chronic diseases that accompany it cost nearly $150 billion a year in added health care spending and kill more than 100,000 Americans each year” (Lochhead 2009). Epidemic childhood obesity is at alarming rate—about one quarter of all children from ages 2 to 5 are overweight or obese before they enter kindergarten (Lochhead 2009). It is absolutely crucial that we change the kind of foods being fed to our youth in schools as well as educate them on healthy eating and nutrition. Apparently school food programs have been “as much about getting rid of surplus farm commodities as they have about feeding children” (Lochhead 2009).

In addition to integrating fresh food and healthy eating education into schools it is also important to acknowledge the learning experiences that can come along with having school gardens. Students can learn math, biology, ecology, geography, geophysics, and nutrition while being outside and getting dirty in their school gardens (Eaton 2010). With having school gardens, teachers will not only be able to expand their creative repertoire of lesson plans, but students will also be able to be more creative in their thinking—being able to learn while they are active outside of the classroom.

Libraries are also starting to sprout up new food producing gardens. At the Mission ST. branch library in San Francisco, the children’s librarian partnered up with local businesses and community members to erect a small library garden to be used by local elementary school children as an after school “education in the garden” program (Eaton 2009). Other libraries embrace green landscaping, but just like schools it should become an integral part of the institution.

5. Challenges for Urban Farming

Just like with any other kind of new system come challenges. The biggest challenges urban agriculture faces are Access to land and utilities, dealing with city codes, regulations and restrictions, and finding funding (Langlois 2010). There are plenty of vacant lots in our cities but being able to get access to the land, and acquire rights to it can definitely be challenging. Several urban farms are temporary ones, placed on vacant lots without rights or only having a limited lease. With this being the case it is a big challenge to create permanent urban farms.

Then once you obtain access there is always the red tape of having to deal with city codes and regulations. A new urban farm in San Francisco, Little City Gardens, is in the beginning stages of becoming a supplier of fresh produce to nearby upscale restaurants. But is being held
back due the legality of selling vegetables grown in San Francisco without a special permit, which happens to be quite expensive and time consuming for a small-low profit business (Elinson 2010). The current cost of the special permit can cost up to $3000 and take up to five months to process. As many other cities across the country, San Francisco is working on drafting an amendment that would allow food grown in the city limits to be sold to their neighbors or businesses without any strict permits (Elinson 2010).

In addition to the obtaining access and cutting through the red tape of city codes and regulation, there is still the struggle of finding funding. Funding for community gardens should be provided by the city’s park and recreation department. But due to our current economy and budget there isn’t any public funding around. Most of the major urban farms around the country are funded by private grants and donations—but just like any other producing system, it constantly requires maintenance. It takes about 3 years for an urban farm to get in full swing to the point where it has a good chance of being self-sustaining (Langlois 2010).

6. Urban Farming: The Multifunctional Solution

Urban Farming is a network of small-scale sustainable food systems that have profound effects on Cities’ and communities’ health. 1. They produce locally grown healthy foods that in return provide access to otherwise deprived food deserts. 2. They provide employment opportunities and job training for community members—preferably low-income disadvantaged members. 3. When implemented in residential neighborhoods, schools, and libraries they provide a huge source of educational opportunities to our youth—allowing them to grow up with having the knowledge of how to be a conscious consumer and feed themselves healthy foods. 4. In addition to providing education that can lead towards better health, urban farms also provide a means for exercise and therapy (Bellows 2004). 5. Vacant lots full of trash or overgrown weeds are not very appealing, but turning them into vibrant food producing gardens, allow the eyesore to become quite a marvelous site. It not only beautifies communities but also acts as a natural disposal for organic city waste—in San Francisco, the city mandates you to throw your food waste into the compost bins and actually fines its citizens and businesses for not doing so. 6. And the most important contribution of urban farming is its ability to empower communities by giving them the means to produce their own food and therefore having access to healthy fresh foods. It also provides a way for communities to unite and create strong social bonds around the food they produce and eat. You will then have communities that experience food security and food justice. When all of these solutions are apparent you have a sustainable local food system, healthy and educated citizens, a cleaner and more beautiful city, and empowered communities.

7. Personal Experience Incorporating Education: ESLP URBAN FARMING ART

During the summer of 2009 an Education for a Sustainable Living Program (ESLP) representative came to speak at my green building class. She talked about students being able to facilitate other students pertaining to sustainability at UCSC and the Santa Cruz community. It got me thinking about getting involved in a student run organization before I graduated and being able to contribute to campus sustainability via education. I didn’t really hesitate at all, I called up my good buddy, Mike Hayes, who was also an Environmental Studies major and interested in sustainable agriculture, and filled him in on the organization and our potential. We
both had been farming and learning a little bit about urban agriculture so we figured it should be our topic to propose as a class. We also realized that the outcome would not only be teaching fellow classmates but also further expanding our own knowledge of the topic.

During this time of contemplating over facilitating a class, my mother sent me an article from the San Francisco Chronicle talking about a young lady in Berkeley, CA that had started a community food foraging and food trading network. It was honestly one of the coolest articles I have ever read; it involved community members getting together and trading their surplus fruits and veggies amongst each other and donating the rest to members in need. It also mentioned an organization, Forage Oakland, which took at-risk youth after school on forage walks throughout neighborhoods (Brown 2009). I quickly shared the article with Mike, who had already heard some things about community food trading networks, and we both were immediately set on facilitating a class on urban farming that would have a class project of developing a similar network for UCSC and the Santa Cruz community. This portion of my thesis will cover our experience of working with ESLP—from being trained as facilitators, to carrying out our class project, and leaving a lasting impact on the students we worked with and the UCSC community.

7.1 Winter Training Seminar (WTS)

In order for facilitators to be prepared for teaching in the Spring, we had to enroll in an ESLP sponsored Winter Training Seminar. This training seminar proved to be quite useful. We had dedicated time set aside for preparing a concrete set of goals we hoped to achieve by facilitating a class. This was done by creating a Vision Action Plan, not only did it focus on what our class was going to achieve but what we hoped to achieve for our own personal good while being facilitators. This proved valuable to me because I was able to acknowledge exactly what I wanted from this experience and would then be able to later go back and remind myself of what I needed to be striving for.

In addition to establishing our goals for our class we also had workshops on effective facilitating and curriculum development. This of course was a very crucial component of the training seminar since neither Mike nor I had any experience teaching, especially with peers our own age. These workshops allowed us to develop our syllabus, lesson plans, and our project plan/guide. We met regularly with our faculty sponsor, Michael Loik, who gave us quality feedback on our syllabus and project proposal. We also met once a week with fellow facilitators and Toshi Barks, the ESLP student coordinator, where we would share our experiences developing our classes as well as learn tips from one another as far as facilitating or lesson plan building. These meetings with Toshi and fellow facilitators also allowed time for us to implement our lesson plans via practice facilitations. This proved to be very helpful because it allowed us to experience before hand what it felt to teach a section as well as allow others to provide us with valuable feedback.

By the end of WTS we had prepared our syllabus, had several lesson plans constructed, and had our project plan of a community based food trading network for UCSC and the Santa Cruz community hammered out. We had also tweaked our class focus to cover urban homesteading in addition to urban farming.
7.2 Facilitating

Facilitating our class was challenging but also a very fun and fulfilling experience. Our class of fellow students ranged from first years to fourth years and had a variety of educational backgrounds. Some were very knowledgeable about sustainable agriculture and others had no idea what it was about. We often met outside and began our classes sharing what was going on in our lives and why this subject was important to us. We would read interesting articles ranging from urban farming/homesteading/foraging to food justice and food security. At different times everyone chimed in with their opinions and questions and constant flow of discussion took place. During discussions there were times of dry moments though, but that also allowed Mike and I to improvise and be creative with our on-the-spot facilitating. In addition to discussions we also watched films on urban farming and homesteading, took a tour of the campus gardens, visited an urban homestead in Santa Cruz and worked on developing our class project.

7.3 ART Project

Our Action Research Team (ART) class project was to implement an online food foraging and trading network for the UCSC and Santa Cruz Community. We gave it the name of SlugGrub and set class time aside throughout the quarter to work on developing it. The development of the project was split up into 6 different categories—photo and image design, flyer production, publicity/distribution, website mission statement, rules for foraging, and a conclusion team. Students were able to choose the category that they felt they’d have the most productive contribution towards—it was efficient and worked out quite well. The main mission of the network was to provide access to locally grown food, which would otherwise go to waste, to students and members of the community. This access involved providing a network for students and community members to join so they could establish neighborly relationships focused around sharing and trading surplus foods or related goods. There were some hiccups along the way as far as getting the network online but by the end of the quarter we had a functioning site up and running. Due to the late implementation of the online network—it didn’t receive as many members as we had hoped—students were going home for the summer and there wasn’t enough time to give it a good campaign run. Mike and I hope that a future ESLP ART will finish up what we started by publicizing the network and getting a work party of students and community members to help ignite relationships for the network. It’s in place it just needs a little help igniting interest and participation.

<http://sluggrub.enviroslug.org>

7.4 Outcome

In addition to developing the online food trading website as our class project, Mike and I also assigned students to keep a journal and to implement individual homesteading projects. Reading our students’ journals and homesteading project write ups was one of the most enriching experiences I have had. All of our students were so glad they took our class and were able to learn and spend their time focusing on something that made them feel better about themselves—and allowed them to be contributing members towards more sustainable lifestyles and communities. Some students were completely new to this education and experience and therefore were super grateful that they were introduced to this new lifestyle of sustainability, reconnecting
with their food and being able to create useful things from scratch. Other students had this knowledge already but were grateful to have this extra push to encourage them to carry out their ideas and projects. All of the homesteading projects were amazing and the reflections of them were heartwarming. Our students really felt the importance of having a connection with their food and their own ability to produce goods that they could use or consume instead of buying them from a store. Some of the projects included: starting backyard gardens, brewing beer, urban beekeeping, knitting, homemade shampoo and soap, producing kombucha and barley milk, constructing a cookie tin guitar, cooking and baking, and composting. This class motivated and encouraged students to step outside their comfort zone and be creative whether it was cooking, gardening or building something from scratch. I am proud of Mike and myself for facilitating such an experience that allowed students an alternative education focusing on community, food, and homesteading. After facilitating this class and reading my students reflections on their experiences, it has motivated me to pursue my passion in urban farming and education. I plan to be managing school farms, teaching classes on sustainability, and providing fresh food to school cafeterias and community members in need.

References


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Course Time & Location: Mondays 2-4:40PM, Soc Sci II rm. 141

Introduction
“To grow your own food gives you a sort of power and it gives you dignity. You know exactly what you’re eating because you grew it. It’s good, it’s nourishing and you did this for yourself, your family and your community.” (Karen Washington)

With approximately 80% of America’s population living in metropolitan areas, the idea of integrating food production into our most dense living environments has become widely considered a crucial step towards increasing our food security, making our food systems and environment more sustainable, and our lives healthier. The United States began as an agrarian society, yet today the majority of Americans don’t have a connection with the food they eat. We have lost the experience and knowledge of growing our own food and producing things from scratch rather than buying them from the store. In addition, most of us don’t even know a farmer and how or where our food is produced. In a city you have the opportunity to implement farms/gardens in several places: schools, rooftops, abandoned lots, backyards, and parks. So many of our cities have the potential to integrate sustainable urban agriculture, and the best part is every individual can contribute.

Purpose, Goals, and Desired Outcomes
The purpose of this class will be to gain a broader understanding of urban farming and homesteading. We will explore ideas about the topics and discuss our opinions of their importance, practicalities, and ideas for implementation. We hope the participants will learn about gardening at home and in their communities along with at-home solutions as opposed to going to the store. Our class project will build a trading network among UCSC students and staff, centering on homegrown fruits and vegetables, as well as other home-made items. In doing so, we hope to build a strong community stressing sustainability, knowledge, and communication of ideas. As a student-run educational program, we expect our project to be kept up and further developed by future “ARTS” and eventually integrated into the general Santa Cruz community.

Evaluation and Grading Policy
- Curriculum—Assignments, Readings, etc. (35%)

Readings will be assigned for most of the classes to stimulate discussion and a flow of ideas. The days that require students to complete readings before attending class are indicated under each day of the course schedule. Readings are located on the class Google-page. Students will also be expected to keep a journal of at least one entry per
The journal should consist of reflections of the readings, class discussions, or of anything related to sustainability or community. Students will also be expected to make something at home that they would normally buy pre-made, this can range widely from canning, to knitting, to building something in their garden. There are unlimited possibilities. Students will be asked to then write a two page (double spaced) paper of their experience; success, failure, or anything in between. Potential project ideas and prompt for the paper will be given out at the first class. The journal and project reflection paper will be collected on May 24th.

- **Project (45%)**
  Students will be working with the facilitators to design and implement a trading website. We will especially focus on developing the online resource (making available spatial maps of UCSC backyard gardens around Santa Cruz) and as well as begin finding participants (students, faculty, staff). We encourage our students to start gardens and begin to participate in trading on the website. We hope it will grow into a widely used trading website where people will trade anything from excess fruits and vegetables to excess building materials or compost. It will also contain information about food foraging with information to hot spots. Our project will leave the potential for future ARTS to maintain and expand our project into the general Santa Cruz community.

- **Participation (5%)**
  Students are expected to take part in the discussions and are very much welcomed to offer their knowledge to the rest of the class to help build the overall knowledge in our class community.

- **Attendance (15%)**
  Students will be expected to attend all of the Monday night lecture series along with this course. Please try your best to get to class on time. Some of the classes will not last the entire 2 hours and 40 minutes. In addition, some classes will be meeting outside or at locations other than the designated classroom. It is imperative to keep up with your email so you are aware of such adjustments.

*****NOTE: This syllabus is tentative and subject to change as class progresses. Any changes will be notified to the students ASAP*****

**Course Schedule**

<table>
<thead>
<tr>
<th>Week 1: March 29</th>
<th>ESLP Intro Night</th>
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<tr>
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<td>-ART presentations and sign-ups.</td>
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<tr>
<th>Week 2: April 5</th>
<th>Course Overview/Introduction</th>
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<tr>
<td>Reading</td>
<td>-Group and Individual Project Logistics</td>
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<tr>
<th>Week 3: April 12</th>
<th>Urban Farming</th>
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<tr>
<td>Reading</td>
<td>-Technologies and Innovations: Hydroponics, Vertical Farming, Greenhouses, Rooftop Gardens, Composting</td>
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| Week 4: April 19 | Food Foraging and Guerilla Farming |
### Reading

- Tour of campus gardens

**Week 5: April 26**

- The Garden (movie screening)
- Challenges urban/community farms are facing

**Week 6: May 3**

- Homesteading
  - The Basics: How we can get involved.

**Week 7: May 10**

- Urban Farm Field Trip
  - We will be visiting a local Santa Cruz farm
  - (Wear old working clothes) meeting
  - location: TBA

**Week 8: May 17**

- The Next Step
  - How our individual efforts can be combined to produce sustainability on a macro level.

- Networking Project
  - Online forum/website development.
  - Advertisement: flyers

**Week 9: May 24**

- Networking Project
  - Finalize forum/website. Finish advertising project

**Assignments Due:** Journal and Individual Homesteading Project Reflection Paper

**Week 10: May 31***

- Memorial Day
  - Canning workshop: time and place TBA

*Denotes days when class will not be held*
ART Facilitators: Mike Hayes, Andrew Olbrycht

Title: Urban Farming and Homesteading

Vision Statement: Our urban farming and homesteading ART will focus on the benefits they have towards making our food systems more sustainable, bringing communities closer to the foods they eat and to the people who produce them. We will spend the quarter focusing on how homesteading and urban gardening can go hand in hand to make our individual lives and homes more sustainable along with our communities. We will spend a few days learning about the basics of urban farming and homesteading and then will discuss their importance and how we can contribute. Throughout the rest of the quarter we will visit and do a little work on an urban farm and have small hands-on workshops. We will finish the quarter with a group project, developing an online network of UCSC students who are willing to trade the food grown in their backyards and possibly other goods. We hope this online network will eventually spread to the entire Santa Cruz community over the years. Half the UCSC student population lives off campus, some already have front and back yard gardens. This network will allow students to acquire food and specialty items on a more communal and sustainable level.

Project Proposal: There will be two projects for our ART. The first will be an individual homesteading project that students will be able to work on outside of class. We will ask students to step outside of their comfort zones and try something new. One possibility is for the students to create something from scratch in their own homes that can be of beneficial use for them or someone else. A list of homestead project suggestions will be passed out on the first day of class. One of the workshops we will possibly host will teach students how to can food for later consumption. The second project will involve the entire class developing an online food trading network that will first be used by UCSC students and hopefully later on the entire Santa Cruz community. Tasks such as website/forum templates and flyers will be divided up and worked on during the last couple of classes. The goal of our project is to connect students off campus, allowing them to grow and trade goods on a very sustainable and community level. We will be working with Devin Cormia (SEC website intern) for technical aspects of the project, unless there is a student with website design background.

Our discussion setting will involve readings on urban farming and homesteading and success stories around the world. We will discuss a variety of methods and even do further individual research throughout the course.

Projected Timeline:
Week 1~2: Discussions on Urban Farming and Homesteading – Success stories, Importance, How we can contribute. If we decide to have a class garden we will be doing that the first couple weeks
Week 3~4: We will discuss the logistics of the group projects and introduce ways we can take control of our lives on the home front.
Week 5~6: We will begin our workshops: e.g. composting, planting, canning
Week 7: Field Trip to a Santa Cruz Urban Farm (Meder ST Farm) Field Trip to community gardens and maybe a farmer’s market
Week 8~10: Implement our Group Project

Needs Statement and Budget:
We will need a classroom with a projector and a DVD player. We will also need $60 in funding for our canning workshop.
Urban Agriculture and Community Food Security: Farming from the City Center to the Urban Fringe. A greener Metro Atlanta that embraces a sustainable, local food system will enhance human health, promote environmental renewal, foster local economies, and link rural and urban communities. Our city faces health and environmental challenges, including the obesity and diabetes epidemics and the contamination of soil, water, and air. Developing a strong, local food system is an exciting opportunity for Metro Atlanta that has the potential to deliver a multitude of benefits directly into neighborhoods, particularly urban food deserts lacking access to healthy foods, democratizes access to organic and sustainably grown foods. To meet growing food demands sustainable farming processes are a must. Discover 13 vertical farming innovations that can revolutionize farming in the future! The very exclusive and sustainable Modular Farm System is another great innovation in the world of vertical farming from the company called ModularFarms. It is an entirely indoor system of vertical farming that has the ability to produce healthy and fresh plants virtually in any climate and anywhere in the world. The tower is an example of a sustainable solution for growing produce with a short shelf life around the year with easy accessibility for the urban population. 13. Sky Greens the World’s First Hydraulic Driven Vertical Farm. Source: Sky Greens.