HORT 692 - Urban Food Production Practicum

Students will complete a practicum in an approved urban agriculture setting to gain exposure to a broad range of tasks facing the urban farmer. This includes planning, production and marketing of crops in high tunnels and open field.

Credits: (2)

Requisites:

Rec. Pr.: HORT 520 and HORT 560.

When Offered:

Fall, Spring, Summer
The Urban Food Systems Specialization at Kansas State University has established this manual to explain the requirements and objectives of the Practicum in Urban Food Production. It is intended for use as a handbook for urban agriculture agency practicum supervisors as well as a guide for students enrolled in the practicum.

The Practicum experience is an opportunity for student’s to demonstrate their knowledge and skills and their readiness for future endeavors in urban agriculture. The student is supported in this experience by the leadership of her/his practicum supervisor.

**Urban Food Systems Program Mission Statement**
The mission of the Urban Food Systems Program at Kansas State University is to prepare students to work as professionals in positions such as director/program managers in not-for-profit organizations, city governments or extension programs in urban districts facilitating community gardens, urban farming, farmers markets, or farm-to-school programs.

**Urban Food Systems Program Goals**
Upon completing the Urban Food Systems specialization students will
- Have proficiency and competency in urban food crop production
- Understand the urban environment and its cultural, political, environmental, and economic roles in urban food systems
- Have grant writing, fundraising, and non-profit management knowledge and skills
- Have community organizing and/or business development skills

**Practicum Objectives**
Students will be able to independently and conscientiously perform all of the tasks required to set up and run or supervise an urban food producing site including; site assessment, soil testing, design, planting, pest control, harvest and post-harvest handling, marketing and record keeping.

Upon completion of the practicum at an (urban) farm students will have achieved competencies in at least 12 of the following Learning Objectives/Activities (*in italics*):

1. **Site selection**: availability, slope, cost, neighborhood, soil type, history, security, probability of contamination from prior use.

   *Students will be able to evaluate the quality and suitability of available sites for specific types of urban gardens/farms.*

2. **Soils**: soil testing, texture, nutrient content, pH, organic matter and other soil quality attributes, pesticide and heavy metal contamination.

   *Students will identify common soil tests available to them and where to get these tests done (labs or quick tests). Students will submit a soil test and be able to interpret the test results, and how to apply amendments or perform remediation if needed.*
3. **Soil Amendments**: composts, manures, vermi-compost, cover crops, leaves, grass clippings, other yard waste, charcoal, commercial fertilizer products.

   *Students will assess the risks and benefits of various types of soil amendments for enhancing soil fertility and quality/organic matter, will know how to source material, test and assess the quality, how to apply the correct rate for the soil type, area, and intended crops and will understand the basics of how to make compost and vermi-compost, and proper safety protocols for each.*

4. **Garden Design**: bed layout, pathways, surfaces and drainage issues (both permeable and non-permeable surfaces), handicapped accessible designs, raised beds, container gardening, farmscaping design principles for pest control, fencing, appropriate use of other “hardscaping” materials and food safety issues.

   *Students will design a garden from inception for a designated site incorporating all of the concepts listed above.*

5. **Water**: sourcing, water testing, quantity, quality, distribution systems, methods of application (drip tape, drip hose, overhead, hand watering), access, rain barrels and other catchment systems.

   *Students will design a watering system, perform water tests, and interpret results.*

6. **Sourcing Seeds and Plants**: seed saving, basic asexual plant propagation, seed and propagule storage methods, germplasm diversity, heirloom/hybrid/GMO differences, sourcing (catalogs, fellow gardeners, etc.), costs, seed and plant borne diseases and risk.

   *Students will understand the risks and benefits of various plant and seed sources, and have a list of resources for obtaining plants in the future.*

7. **Tools**: for planting, tillage, harvesting, laying plastic, etc. farm/garden safety, tool costs and benefits, maintenance of tools, choosing appropriate tools for size of plot/garden, etc.

   *Students will become familiar with a wide variety of tools, have a chance to use them, have a list of resources for obtaining tools, and understand pros and cons of contrasting tools and methods.*

8. **Tillage and Mulching Systems**:

   *Students will be familiar with a range of tillage systems ranging from intensive tillage/double-dig methods, shallow tillage, reduced tillage, and no-till vegetable production systems. Understanding of the pros and cons of each system, and when each might be used, and how to optimize production in each will be necessary. Students will also understand the reasons for the use of mulch, mulch types, sources, and pros and cons of various mulching systems ranging from plastic to hay and other organic material mulches.*
9. **Planting/Planning – Spring and Summer Vegetable Crops**: become familiar with at least 15 spring and summer crops, including proper planting dates, seeds vs. transplants, harvest intervals, weed control options, etc.

   *Students will create a calendar of spring and summer planting schedules, harvest schedules, and anticipated crop yield using various production methods.*

10. **Planting/Planning – Fall and Winter Vegetable Crops**: become familiar with at least 15 fall and winter crops, including proper planting dates, seeds vs. transplants, harvest intervals, weed control options, etc.; season extension using floating row covers, high tunnels, etc.

   *Students will create a calendar of fall and winter planting schedules, harvest schedules, and anticipated crop yield using various production methods.*

11. **Planting/Planning – Fruit Crops**: become familiar with climatically appropriate tree fruit, brambles, and herbaceous fruit crops, at least 6 different fruit crops.

   *Students will have knowledge of appropriate planting dates and methods, pruning regimes, pest management strategies, harvest protocols, life-cycle and other attributes necessary for successful planting and management.*

12. **Principles of Pest Management I**: insects, diseases, weeds of common fruit and vegetable crops. Basic control methods and philosophies.

   *Students will be able to identify common pests in temperate fruit and vegetable gardens, understand the concepts of IPM control, biological control.*

13. **Pest Management II – diagnostics and control (cont.):** resources for diagnosis, pesticide and non-pesticide options, pesticide safety, and food safety.

   *Students will practice diagnosis, make recommendations, and problem solve related to pest management; have a list of resources for diagnosis and pest control recommendations; and will know basics of pesticide safety related to food crops.*

14. **Harvesting and Post-Harvest Handling**: how to estimate optimal stage of harvest for various crops, basics of food storage and handling for various crops (temperature, humidity, lights, etc.), food safety basics, food safety testing.

   *Students will understand optimal harvesting stage for 30-40 common fruit and vegetable crops, optimal storage temperatures, and be able to implement a food safety plan for a garden with many participants/employees.*

15. **Protected Crop Production**: greenhouses, high tunnels, cold frames, low tunnels, etc., appropriate use for various crops, cost comparison, special concerns or issues with protected environments vs. open field. Etc.
Students will design a crop production system using two or more of the options listed above.

16. **Marketing**: displays, set-up, how to find market outlets, pricing, locations, food safety, food banks, alternative distribution systems, transportation, what to do with non-marketable crops, etc.
   
   *Students will research and develop a plan to market 5 to 10 crops, describing in detail the pricing, display, set-up, marketing costs, etc.*

17. **Record Keeping and Financing**: financial record keeping, calculate profitability, sales tax, income tax (if relevant), crop rotation and other records useful to the farm and for organic certification if needed.
   
   *Students will have experience with a record keeping system for a farm/garden.*

18. **Other Possible Practicum topics**: student may choose to pursue one or more special topics as practicum objectives in addition to the general topics listed above. Below are listed some of the possibilities, but students may suggest others as needed. Special topics must be approved prior to beginning the practicum, and a student may choose no more than 2 of these to supplement the general topics. Examples include:
   - crop-livestock integration
   - whole farm planning
   - aquaculture
   - specialty crops – culinary or medicinal herb production
   - mushroom cultivation

Students will submit completed portfolios or resource notebooks documenting their experience and achievement of at least 12 of the 18. An evaluation completed by the practicum supervisor must also be submitted.

**Practicum Site Selection**

1. Identify potential practicum sites and discuss with your thesis advisor/practicum instructor to confirm your choices as acceptable sites.

2. Obtain a position at an approved site.
   
   Students are encouraged to schedule at least two agency/farm interviews and visits. This gives the student the ability to compare and contrast placement opportunities and practicum supervisor support.

3. At least 2 months prior to beginning the practicum, fill out the “Competency Learning Plan” sheets (page 8). Discuss the objectives you hope to complete with your thesis/practicum advisor.
4. Enroll in HORT 692 in the semester/summer that you plan to work on and/or complete the practicum requirements.

**Participant Roles**

1. **Student**
   The student is responsible for initiating and maintaining open communication with practicum agency and school representatives concerning personal educational objectives and priorities. In addition to being learners, students serve as an informal bridge between the school and the practicum agency.

2. **Thesis/Practicum Advisor**
   Assists the student with pre-placement planning and is available as consultant in the event of a placement issue. The thesis/practicum advisor will be responsible for final evaluation of the portfolio and documentation, and will assign a grade or otherwise document completion of the course.

3. **Practicum Supervisor**
   The practicum supervisor is the agency-based staff member who is responsible for guiding the student’s applied educational and practice experience at the practicum site. The practicum supervisor is responsible for student supervision, review of work, and completing mid-term and final student evaluations.

**Participant Responsibilities**

In order for the practicum experience to be successful in meeting its educational function, a great deal of cooperation is essential between all concerned parties. The following expectations and responsibilities have been outlined as a guide for the University, the participating agency and practicum supervisor, and the student.

1. **The Practicum Agency**
   a. Provides an on-going diversity of tasks related to the development of (urban) farming skills.
   b. Provides a meaningful experience with sufficient challenge to the student.
   c. Provides a qualified staff member who will act as the student’s practicum supervisor.
   d. Allows opportunity for the student to experience a range of (urban) farming methods.
   e. Provides an opportunity to learn about the agency and its linkage with the community.

2. **Thesis/Practicum Advisor**
   a. Participates with the student and the agency in placement selection.
b. Assists in the application and interview process if requested.
c. Serves as a regular liaison and consultation to the practicum supervisor.
d. Takes the responsibility for the final grade in consultation with the practicum supervisor and student.
e. Develops, with consultation from students and agencies, guidelines and expectations for the practicum documentation.

3. The Practicum Supervisor
   a. Commits to carrying out the supervisory responsibility who is knowledgeable about specialty crop fruit and vegetable production, preferably in an urban agriculture context.
b. Orients the student to the agency’s operations and helps the student feel a part of the program.
c. Makes meaningful assignments that are appropriate to the student’s skills.
d. Provides a wide range of learning activities commensurate with agency functions.
e. Provides ongoing supervision and feedback for the student.
f. Complete and submit to the practicum instructor a mid-term and end-term evaluation of the student.
g. Provides an exit interview with the student to discuss the experience and the end-term evaluation.

4. The Student
   a. Keeps a journal documenting and discussing experiences and activities.
b. Completes a learning agreement which delineates learning objectives as goals and includes time frames for completion and strategies for accomplishment and evaluation.
c. Respect the individuality and confidentiality of the agency. Professional conduct is expected at all times.
d. Become knowledgeable about the agency and its role in the community.
e. Utilize the supervision experience to further professional growth including knowledge and skill development in urban agriculture.

Selection of Agencies as Practicum Site and Criteria for Field Instructors

Expectations of Agency and Practicum Setting
The selection of an agency as a practicum site is based on criteria related to the agency’s commitment to a shared responsibility for professional education and expertise of staff. The specific criteria for selecting practicum settings include the following:
1. The presence of a solid commitment by the administrator and staff to provide professional, educational learning opportunities in cooperation with the urban food systems program.
2. An agency staff member with a minimum of two years’ experience in (urban) agriculture who agrees to act as practicum supervisor for the student.
3. The willingness by participating personnel to provide students educationally guided experiences as contrasted to indiscriminate odd-job assignments or limited observations.
4. The ability and willingness of the agency to provide “hands-on” problem-solving practicum experience.
5. The availability of staff that is willing and able to devote time to a student, in addition to their normal work load. As a rule of thumb, agencies are expected to provide at least an average of one hour of supervisory time per week, not including daily supervisory tasks.
6. An actual farm or garden site within which the student will work.

**Practicum Supervisor Criteria**
The urban food systems program has established the following criteria for approval of persons as practicum supervisors:

1. Two years’ experience in (urban) agriculture.
2. Recommendation of the agency in which the practicum supervisor is employed.
3. Approval by the urban food systems program.

**Student Learning Agreement**

**Practicum Goals**
The goal of the Urban Food Production Practicum is to gain exposure to a broad range of tasks facing the urban farmer.

**Practicum Competencies**
The field practicum competencies can best be described as standards for achievement by the student with the active support of the practicum supervisor and the agency.

The competencies should assist the student and practicum supervisor in describing learning activities in the learning agreement that are consistent with the goals of the practicum. The learning strategies are specific activities that the agency and practicum supervisor and student have agreed upon that the student will participate in for the duration of the practicum. The learning strategies should be described as specifically as possible and reflect the competencies as listed earlier in this document.

For each competency that you plan to document, please complete a learning plan. (Note, 12 are required, but you might fill this out for more than 12 in case things change once you are at your practicum site).
Competency Learning Plan

1. Competency title, learning objectives and activities (from list provided)

2. Prior Experience.
   a. What is your prior knowledge in this area? (Use the rating system 0 to 5 provided below).
   
<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>No prior knowledge in this area.</td>
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<tr>
<td>1</td>
<td>Minimal prior knowledge.</td>
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<tr>
<td>2</td>
<td>Some prior knowledge, but unable to perform this activity without assistance or advice.</td>
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<tr>
<td>3</td>
<td>Somewhat familiar with this area, have performed before, but would not be comfortable performing independently.</td>
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<tr>
<td>4</td>
<td>Could perform this task independently, but would not be able to advise or supervise.</td>
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<tr>
<td>5</td>
<td>Familiar with this area, could perform independently, and advise and supervise others.</td>
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</tbody>
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   b. Where and when did you obtain this experience?

   c. About how many hours were spent learning this material?

   d. What were some specific activities that you performed in this area to gain competence? [Note: some prior experience may count towards the 400 hours required for completion of this practicum].

3. What do you see as the learning opportunities for you in this competency at your practicum placement site?

4. What are your specific learning goals for this competency at this site?

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(Note: complete 1-4 above before your placement. Complete the remainder during or after your return from your practicum placement. Review statements 1-4 above with both your thesis/practicum advisor and your practicum supervisor before you begin).

5. About how many hours per week or total hours over the season did you spend working on this competency?

6. What new knowledge was gained? (short summary, paragraph or two summary).

7. Provide documentation or demonstration of the knowledge gained and your current competency level. Documentation may take the form of a drawing or diagrams, (for example of an irrigation system installed), a series of photographs, or a narrative explaining how you accomplished the learning objectives and tasks.

8. How would you rate yourself now using the 0-5 scale above? Do you feel that this practicum experience allowed you to gain proficiency at the level required for your future career objectives in urban agriculture? Why or why not? (Note: unless there are extenuating circumstances, a “4” level is expected as a minimum score for each of the 12 competencies).

Appendix A: After you have written up the documentation for your portfolio, please ask your practicum supervisor to comment on each of the 12 competencies. Include their comments in your portfolio presentation to your thesis/practicum advisor. See attached sample form for your use.

Appendix B: Another page will be added for your thesis/practicum advisor to comment on individual competencies and the overall portfolio.
Tips for Documenting Learning Strategies and Activities
Clearly written learning strategies and activities in the agreement add structure to the student’s practicum efforts, individualize the experience, and delineate the process of evaluation. Learning Activities/ Tasks enable a student to clearly demonstrate the stated outcome measures. Well-stated learning strategies are task specific and assist in critical performance review. The student and practicum supervisor will work together to tailor these activities more specifically to meet individual student learning needs and agency setting.

Writing the Learning Agreement
1. Students
   a. Review the listed competencies.
   b. Review the expected outcome statements and rating scales. This tool will be used as part of your final evaluation and can indicate pre/post measure of growth if rated at the beginning of practicum, midterm and final evaluations times.
   c. Make a list of the skills and knowledge that you would like to develop during the practicum. This list may include skill deficits as well as skills and knowledge that you already possess but would like to develop further.
   d. Pare the list down to a manageable (strategies/activities/tasks) size. Keep in mind career objectives, agency setting, past work and academic experience which may be applied to the field practicum.
   e. Edit the shortened list and begin to tailor the activities to fit individual learning needs. Use the following guidelines:
      i. Be specific. Avoid global or general statements. Describe learning activity in terms that can be observed, evaluated or measurably achieved.
      ii. Write simple. It is not necessary to include jargon or buzz words.
      iii. Use examples if it will help reader understand the intent.
      iv. Learn to condense material (putting the emphasis on quality not quantity).
   f. Strategies and activities often reflect a process which can be broken down into a number of smaller activities or steps.
   g. When possible, assign target dates for the completion of learning activities. Be specific for ways in which the outcomes can be evaluated.

2. Practicum Supervisor
   The writing of the learning agreement is the responsibility of the student. However, the identification of learning strategies and activities cannot be accomplished without your direct comment, participation and orientation of the student to learning possibilities within the agency. The goals and task headings of the learning agreement are designed to facilitate direction, learning process, exposure to various fields of practice and specificity in performance and consequently, evaluation. A defined strategy or activity should be considered as an incremental step in the student’s development of knowledge and skill.
Appendix A: Practicum Competencies Documentation  
For the Practicum Site Supervisor

Student Name: ____________________________________________

Date: ___________________

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<tr>
<th><strong>Narrative (student complete)</strong> – Number and list the 12 competencies addressed through your work experience for this practicum. Briefly summarize the activities and learning experiences that contributed to achievement of this competency. Note your knowledge level at both the beginning and ending of your practicum site experience (using the 0-5 scale provided).</th>
<th><strong>Practicum Supervisor Comments</strong>: (may comment on each competency individually or the group as a whole). Please note whether the student achieved the score/level reported.</th>
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Student Signature and Date:
Supervisors Signature and Date: