



King Saud University
College of Food and Agriculture Sciences
Department of Plant Production

Course Specifications

PPS 205 – Nurseries and Methods of Plant Propagation

Prof. Fahed A. AL- Mana
Instructor

Course Specifications

Institution: King Saud University	Date of Report 2013
College/Department : College of Food and Agriculture Sciences, Plant Production Department	

A. Course Identification and General Information

1. Course title and code : Nurseries and Methods of Plant Propagation, PPS 205																				
2. Credit hours: 2 hours, Lecture (1hr.) + Practical (1 hr.)																				
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Plant Production Sciences																				
4. Name of faculty member responsible for the course Prof. Dr. Fahed AL- Mana																				
5. Level/year at which this course is offered 5th level / 3rd year																				
6. Pre-requisites for this course (if any) PPS 201 (Principles of Plant Production)																				
7. Co-requisites for this course (if any) None																				
8. Location if not on main campus None																				
9. Mode of Instruction (mark all that apply)																				
<table> <tr> <td>a. Traditional classroom</td> <td><input checked="" type="checkbox"/></td> <td>What percentage?</td> <td><input type="text" value="60%"/></td> </tr> <tr> <td>b. Blended (traditional and online)</td> <td><input type="checkbox"/></td> <td>What percentage?</td> <td><input type="text"/></td> </tr> <tr> <td>c. e-learning</td> <td><input type="checkbox"/></td> <td>What percentage?</td> <td><input type="text"/></td> </tr> <tr> <td>d. Correspondence</td> <td><input type="checkbox"/></td> <td>What percentage?</td> <td><input type="text"/></td> </tr> <tr> <td>f. Other</td> <td><input checked="" type="checkbox"/></td> <td>What percentage?</td> <td><input type="text" value="40%"/></td> </tr> </table>	a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="60%"/>	b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>	c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>	d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>	f. Other	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="40%"/>
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Comments:																				

B Objectives

<p>1. What is the main purpose for this course?</p> <ul style="list-style-type: none"> - Show the importance of nurseries, nursery objectives, sections and types of nurseries. - To be familiar with the basic steps of nursery establishment "created nurseries and greenhouses", propagation units and other buildings. - To study the main methods of plants propagation (sexual and vegetative methods of plant propagation), propagation using tissue culture. - To clarify suitable environmental factors and difficulties facing propagation operations, cultural practices and maintenance of plants grown in nurseries.
<p>2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)</p> <ul style="list-style-type: none"> - Use new information related to the course subjects. - Present lectures by the effective use of Smart Classrooms. - Periodic assessment of the material submitted and updated.

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
Nursery importance – Principals of plant propagation. Main methods of plant propagation - Nursery types.	1	2
Aims and purposes of nursery establishment - Main steps for nursery establishment - Nursery structures and components.	1	2
Kinds of greenhouses (Glass, plastic, wood, cloth, wire, mobile houses). Propagation units used for producing plants in nurseries, other buildings in the nurseries.	2	4
Means of greenhouse conditioning (heating, cooling, airing). Microclimate factors in the greenhouse.	2	4
Field trip to the university nursery and college greenhouses.	1	2
Soils and media mixes used in nurseries - The suitable medium used for nursery production.	1	2
Different containers used in the nursery.	1	2
Plant propagation methods (sexual and vegetative propagation). Seed propagation, seed collection, seed storage, seed viability.	1	2

Seed germination, environmental factors affecting seed germination. Seed Dormancy-Seed treatments for breaking dormancy.	1	2
Vegetative propagation: cuttings, budding, grafting, layering , off-shoots, suckers, under-ground plant parts (bulbs, corms, stem and root tubers, rhizomes, stolons and runners), separation and division	1	2
Types of propagation by cuttings – Hormones encouraging root initiation and growth.	1	2
Types of propagation by budding and grafting - Types of propagation by layering- Propagation by some underground plant parts. Propagation by separation and division. Field trip to a private commercial nursery at Riyadh area.	1	2

2. Course components (total contact hours and credits per semester): 28 hours						
	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	14	-	12	-	2 (Field Trips)	28
Credit	1	-	1	-	-	2

3. Additional private study/learning hours expected for students per week. <p style="text-align: center;">None</p>

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy
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	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge Upon completion of the course, students should be able to:		
1.1	Recognize information about nursery management and culture.	Lectures	Written exams
1.2	List the main methods of plant propagation.	Class discussion	Written exams

1.3	Describe the main steps for nursery establishment	Practical classes and field trips	Written exams
1.4	Recall advanced technology in the area of nursery production and propagation	Practical classes and field trips	Field trip reports
2.0	Cognitive Skills Upon completion of the course, students should be able to:		
2.1	Differentiate among units used for producing plants in nurseries	Lectures	Written exams
2.2	Justify using appropriate soils and media mixes in nurseries.	Lectures	Report
2.3	Ability to work with different materials and tools.	Lectures	Written exams
2.4	Plan for a nursery establishment.	Lectures	
3.0	Interpersonal Skills & Responsibility Upon completion of the course, students should be able to:		
3.1	Choose suitable requirements of greenhouse conditioning.	Lectures	Written exams
3.2	Evaluate success or failure of nursery production.	Group Discussions	Report papers
4.0	Communication, Information Technology, Numerical Skills Upon completion of the course, students should be able to:		
4.1	Calculate required quantity and/or concentration of chemicals and growth regulators for plant propagation.	Lectures	Written exams
4.2	Appraise information collected from electronic references, journals and data basis related to nurseries.	Lectures	Written exams
5.0	Psychomotor Not Applicable		

D. Student Academic Counseling and Support

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	1 st midterm (theoretical and practical exams)	Week 7	25%

2	Presentations and/or report papers	At the end	10%
3	2 nd midterm (theoretical and practical exams)	Week 14	25%
4	Final Exam	Week 15	40%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

2 hour per course per week

E. Learning Resources

1. List Required Textbooks

None

2. List Essential References Materials (Journals, Reports, etc.)

Mason, J. (2004). Nursey management. 2nd ed. Landlinks Press, Collingwood, Australia.

Hartmann, Hudson T. and Dale E. Kester. 1975. Plant Propagation Principles and Practices. Prentice-Hall, Inc., Englewood Cliffs, N. J. U.S.A.

Hassan, Ahmed A. 1988. Technology of Protected Agriculture "greenhouses". Dar Al-Arabia for Publication and Distribution, Cairo, Egypt. "In Arabic".

Ibrahim, Atief Mohamed and Mohamed Elsaed Hiekl. 1995. Nursery of Horticultural Crop Propagation. Munshaat Almaref, Alexandria, Egypt. "In Arabic".

Kaatna, Hisham and Mohamed Husny Jamal. 1998. Nurseries and Vegetative Propagation. Publications of Damascus University. Etihad Press, Syria. "In Arabic".

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

- All other books and reference material which are related to nursery production and plant propagation.

4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

- Local and world Web sites of nurseries and plant propagation.

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

None

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture and laboratory rooms should accommodate 25 students.

2. Computing resources (AV, data show, Smart Board, software, etc.)

Smart classroom should be used, equipped with laptop computer – projector system.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Ornamental plant laboratory and greenhouses are used for the practical class.

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Course teaching evaluation by the students through “Edugate” system of King Saud University website by the end of each semester.

2. Other Strategies for Evaluation of Teaching by the Program/Department Instructor

None

3. Processes for Improvement of Teaching

- Training sessions for instructors.
- Workshops to facilitate the exchange of experiences among faculty members.
- Regular colleagues meetings where problems are discussed and solutions given.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Students are given chance to double-check marking of their mid-term exams.
- According to KSU rules, students who believe they are under graded can have their papers checked by a second reviewer.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Compare syllabi and course description with other universities (including those on the net)
- Biannual meetings of faculty members to discuss improvement.
- Have a curriculum review committee to review the curriculum periodically and suggest improvements.

Faculty or Teaching Staff: Prof. Fahed A. AL- Mana

Signature: _____ Date Report Completed: _____

Received by: Prof. Nasser A. Al-Suhaibani Dean/Department Head

Signature: _____ Date: _____