

جمهورية العراق

وزارة التعليم العالي والبحث العلمي

جهاز الاشراف والتقويم العلمي



الجامعة: بغداد

الكلية: الزراعة

القسم : علوم المحاصيل الحقلية

المرحلة الدراسات العليا الماجستير

اسم المحاضر الثلاثي : أ.د. وجيهة عبد حسن

للقب العلمي: استاذ

ول الدروس الاسبوعي

الاسم	د.وجيهة عبد حسن
البريد الالكتروني	wajeeha@coagri.uobaghdad.edu.iq
اسم المادة	نظريات في تربية النبات
مقرر الفصل	الربيعي
اهداف المادة	تدريس طلبة الدراسات العليا (الدكتوراه والماجستير) اهم طرائق التربية وعلاقتها بالتكنولوجيا الحيوية واعطاء فكرة عن طرائق التربية الحديثة والربط بين التربية التقليدية للمحاصيل والتربية الحديثة المعتمدة على المعلومات الجزيئية وتربية نباتات متحملة للظروف البيئية ودراسة التداخل الوراثي البيني ونظرة الى ما فوق الوراثة .
الكتب	<ul style="list-style-type: none"><li>Duvick , D. N., J. C. S. Smith and M. Cooper(2004) Long term selection in a commercial hybrid maize breeding program. Plant .Breed. Rev.24:109-151.</li><li>Elsahookie, M. M.(2009) Seed Growth Relationships. Coll.of Agric Univ.of Baghdad. Ministry of Higher Edu &amp; Res. Pp. 150.</li><li>Falconer, D. S. and T. F. C. Mackay . 1997. Introduction to Quantitative Genetics . Longman Group Ltd. London, Pp 464.</li><li>Hallauer,A.R.2007.History, Contribution,and future of quantitative (genetics in plant breeding: Lessons from maize.Crop Sci. 47: 54-519. Simmonds N. W. 1979. Principles of Crop Improvement. Longman London and New York .Pp 408.</li><li>Singh, R.K. and Chaudhary B.D.(1985) Biometrical Methods In Quantitative Genetic Analysis. Kalyani publishers, New Delhi-Ludhiona . Pp. 318.</li></ul> Elsahookie, M. M. , A.A. Dawood , S.H. Cheyed.2022. Lectures in Plant Genetic Engineering . <a href="https://www.researchgate.net/publication/359584453">https://www.researchgate.net/publication/359584453</a>
المصادر الخارجية	

تقديرات الفصل	الفصل الدراسي	المختبر	الامتحانات اليومية	المشروع	الامتحان النهائي
	% 25	% 15	% 10	-	% 50

الجامعة :بغداد

الكلية :الزراعة

القسم : علوم المحاصيل الحقلية

المرحلة الدراسات العليا الماجستير

اسم المحاضر الثلاثي : أ.د. وجيهة عبد حسن

للقب العلمي: استاذ



جمهورية العراق

وزارة التعليم العالي والبحث العلمي

جهاز الاشراف والتقويم العلمي

جدول الدروس الأسبوعي

الأسبوع	المادة النظرية	المادة العملية
1	الاسبوع الاول : تربية النبات والتكنولوجيا الحيوية	Plant breeding and biotechnology.
2	الاسبوع الثاني : تربية النبات عالمياً، الثورة الخضراء وما بعدها.	Breeding goes global : The green revolution and beyond.
3	الاسبوع الثالث : تقنية الزراعة الحيوية الجينات والاحلام.	Agbiotech : genes and dreams.
4	الاسبوع الرابع : الادارة الحقلية وتربية النبات لتحسين المحاصيل.	The roles of management, subsidies and breeding in crop improvement.
5	الاسبوع الخامس : الوراثة الكمية والجينومات وتربية النبات .	Quantitative genetics, genomics and plant breeding.
6	الاسبوع السادس : تكامل التقانات الجزيئية من خلال الوراثة الكمية وتربية النبات.	

	<b>Integrating molecular techniques into quantitative genetics and plant breeding.</b>	
7	الاسبوع السابع : استخدام المعلومات الجزيئية وتربية النبات (تحمل الجفاف). <b>Use of molecular markers in plant breeding : Drought Tolerance</b>	
8	الاسبوع الثامن : الصفات الكمية وتربية النبات ونمذجة المعادلات للتحسين الوراثي للمحاصيل الحقلية. <b>Complexity, Quantitative Traits and plant breeding : a role for simulation modeling in the genetic improvement of crops.</b>	
9	الاسبوع التاسع : زراعة الانسجة ودورها في تحسين المحصول. <b>Tissue culture for crop Improvement.</b>	
10	الاسبوع العاشر : التداخل الوراثي- البيئي الافاق والتقدم. <b>Genotype-Environment Interaction: progress and prospects.</b>	
11	الاسبوع الحادي عشر : تحليل Biplot للبيانات المتعددة. <b>Biplot Analysis of Malt –environment trait data.</b>	
12	الاسبوع الثاني عشر : فوق الوراثة وتربية النبات. <b>Epigenetic and plant breeding introduction.</b>	
13	الاسبوع الثالث عشر : مثيلة الهستونات. <b>Histone methylation.</b>	
14	الاسبوع الرابع عشر : فوق الوراثة والشد البيئي. <b>Epigenetic and Environmental stress.</b>	
15		

Republic of Iraq

The Ministry of Higher Education

& Scientific Research



University: Baghdad

College: Agriculture

Department: Crop science

Stage: top graduate students

Lecturer name: Wajeeha Abed Hassan

Academic Status: PhD

Qualification: Professor

Place of work: College of Agriculture

### Course Weekly Outline

Course Instructor	Wajeeha Abed Hassan
E_mail	<a href="mailto:wajeeha@coagri.uobaghdad.edu.iq">wajeeha@coagri.uobaghdad.edu.iq</a>
Title	Theories in Plant Breeding
Course Coordinator	Autumnal
Course Objective	Teaching the graduate students (PhD) the most important methods of education and its relation to biotechnology and give an idea of the methods of modern education and the link between traditional crop education and modern education based on molecular parameters and breeding plants for environmental conditions and study of environmental genetic interaction and Epigenetic.
Course Description	
Textbook	<ul style="list-style-type: none"><li>• Duvick , D. N., J. C. S. Smith and M. Cooper(2004) Long term selection in a commercial hybrid maize breeding program. Plant .Breed. Rev.24:109-151.</li><li>• Elsahookie, M. M.(2009) Seed Growth Relationships. Coll.of Agric Univ.of Baghdad. Ministry of Higher Edu &amp; Res. Pp. 150.</li><li>• Falconer, D. S. and T. F. C. Mackay . 1997. Introduction to Quantitative Genetics . Longman Group Ltd. London, Pp 464.</li><li>• Hallauer,A.R.2007.History, Contribution,and future of quantitative (genetics in plant breeding: Lessons from maize.Crop Sci. 47: 54-519.</li><li>• Simmonds N. W. 1979. Principles of Crop Improvement. Longman London and New York .Pp 408.</li><li>• Singh, R.K. and Chaudhary B.D.(1985) Biometrical Methods In Quantitative Genetic Analysis. Kalyani publishers, New Delhi-Ludhiona . Pp. 318.</li></ul> <p>Elsahookie, M. M. , A.A. Dawood , S.H. Cheyed.2022. Lectures in Plant Genetic Engineering . <a href="https://www.researchgate.net/publication/359584453">https://www.researchgate.net/publication/359584453</a></p>

Referenes					
Course Assessment	Term Tests	Laboratory	Quizzes	Project	Final Exam
	25%	15%	10%	----	50%
General Notes					

  
**Republic of Iraq**

**The Ministry of Higher Education**

**& Scientific Research**



**University:Baghdad**

**College:Agriculture**

**Department:Crop Science**

**Stage:Fourth**

**Lecturer name**

**Academic Status:**

**Qualification**

**Place of work:College of Agriculture**

### Course weekly Outline

Week	Topics Covered	Lab. Experiment Assignments
1	1- Plant breeding and biotechnology.	
2	Breeding goes global : The green revolution and beyond.	
3	Agbiotech : genes and dreams.	
4	The roles of management, subsidies and breeding in crop improvement.	
5	Quantitative genetics, genomics and plant breeding.	

6	Integrating molecular techniques into quantitative genetics and plant breeding.	
7	Use of molecular markers in plant breeding : Drought Tolerance	
8	Complexity, Quantitative Traits and plant breeding: a role for simulation modeling in the genetic improvement of crops.	
9-	Tissue culture for crop Improvement.	
10-	Genotype-Environment Interaction: progress and prospects.	
11 -	Biplot Analysis of Maltby –environment trait data.	
12	- Epigenetic and plant breeding introduction.	
13-	Histone methylation.	
14	- Epigenetic and Environmental stress.	

الأبحاث المنشورة في مجال التخصص

No.	Research title	Place of	Year
1	S1-PROGENY SELECTION FOR DROUGHT-N-K STRESSES IN MAIZE 1- Some field traits	The Iraqe J. of Agric. Sci. (TIJAS) 44(1):16-28	2013
2	S1-PROGENY SELECTION FOR DROUGHT-N-K STRESSES IN MAIZE 2-YIELD –SOME COMPONENTS AND (WUE <sub>c</sub> )	The Iraqe J. of Agric. Sci. (TIJAS) 44(1):29-42	2013

3	S1-PRPGENY SELECTION FOR STRESSES IN MAIZE (YIELD, SOME GROWTH CRITERIA	THE KUFA JOURNAL OF AGRICULTURAL SCIENCES 5(6) (special Issue): 41-60	2013
4	Effect Of Seed Soaking With Pyridoxine And Foliar Application Of Boron On Growth –Yield- And Yield Components Of Wheat ( <i>Triticum Aestivum</i> L.)	THE ANBAR JOURNAL OF AGRICULTURAL SCIENCES 12( (special Issue) 264-280	2014
5	S1-PROGENY SELECTION A BIOTIC STRESSES TOLERANCE IN MAIZE - YIELD AND SECONDARY COMPONENTS-	The Iraque J. of Agric. Sci. (TIJAS) (special Issue) 893-903	2014
6	S3-PROGENY SELECTION A BIOTIC STRESSES TOLERANCE IN MAIZE - THE YIELD, GRAIN WEIGHT AND ROOT WEIGHT	Iraq(3 <sup>nd</sup> ) Association of Genetic and Environmental Resources Conservation	2015
7	ESTIMATION OF SOME GENETIC PARAMETERS OF GROWTH AND YIELD CHARACTERS OF <b>SUNFLOWER</b> UNDER THREE PLANT DENSITIES	The Iraque J. of Agric. Sci. (TIJAS) 47(4): 921-932	2016
8	Some genetic parameters in <b>maize</b> using full diallel crosses	The Iraqi Journal of Agricultural Sci-47(5):1151-1165	2016
9	Determine The Selection Criteria Via Correlation and Path Coefficient in <b>Sorghum</b> .	AL- Qasim Green university Euphrates J.of Agr.Sci (special Issue)pp: 59-75	2016
10	Hybrid vigor ,hetrosis ,and genetic parameters in <b>maize</b> by diallel cross analysis	International J.ofAgric.Sci 2(1): 1-11	2016
11	Genotypic, phenotypic variation ,correlation and path analysis <b>bread wheat</b> . ( <i>Triticum aestivum</i> L. )	AL- Qasim Green university Euphrates J.of Agr. Sci 8(4)	2016
12	EFFECT OFF SEEDING RATE ON GROWTH AND YIELDS AND ITS COMPONENTS FOR SOME CULTIVARS OF <b>BREAD WHEAT</b> ( <i>Triticum aestivum</i> L.)	AL- Qasim Green university Euphrates J.of Agr.Sci 9(1)	2017
13	Genetic Parameters For <b>Sorghum</b> Varieties In Different Population densities.	International Journal of Applied Agricultural Sciences (2016)	2017
14	Evaluation of <b>Sunflower</b> genotypes ( <i>Helianthus annuus</i> L.) in the early phases of growth under different levels of N and K fertilizers	AL- Qasim Green university Euphrates J.of Agr.Sci 9(1) 136-152.	2017
15	ESTIMATION OF GENETIC PARAMETERS IN <b>SORGHUM</b> UNDER EFFECT OF POPULATIONS AND SEASONS.	The Iraqi Journal of Agricultural Sci-48(2) :551-562.	2017
16	GROWTH TRAIT'S AND YIELD EVALUATION OF ITALIAN <b>MAIZE</b> INBRED LINES BY FULL DIALLEL CROSS	The Iraqi Journal of Agricultural Sci-48(3) :773-781	2017
17	Heritability and genetic gain to a selective of <b>maize</b> under sufficient and insufficient water, nitrogen and potassium	THE ANBAR JOURNAL OF AGRICULTURAL SCIENCES 15(special Issue): 156-165	2017

18	Assessment Yield and Its Components of Italian <b>Maize</b> Inbred Lines by Full Diallel Cross	THE ANBAR JOURNAL OF AGRICULTURAL SCIENCES 15 (special Issue): 114-124	2017
19	GENOTYPIC AND PHENOTYPIC CORRELATION IN <b>MAIZE</b> AND PATH COEFFICIENT II- Yield and yield components.	The Iraqi Journal of Agricultural Sci-48(3): 885-891	2017
20	Estimation of some genetic parameters and path coefficient in <b>maize</b> .	Egebtioan Journal for plant breeding Vol 21(5): 305-315	2017
21	Estimation of Genetic Variation Components, Average Degree of Dominance and Heritability for Several Traits of <b>Maize</b> in Four Crosses	IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS) 10(10): 53-57	2017
22	Estimation of Genetic parameters and Path Coefficient for Growth Traits, Yield and its Components for Parents and Hybrid of <b>Maize</b> .	Ministry of agriculture 9 th scientific conf .for Agric.Res. 22 ( special Issue).	2018
23	GENOTYPIC AND PHENOTYPIC CORRELATION IN <b>MAIZE</b> PATH COEFFICIENT 1-Agronomic Traits.	The Iraqi Journal of Agricultural Sci-49(2):179-187	2018
24	Estimation of some genetic parameters , correlation and path coefficient analysis for <b>Faba bean</b> varieties under two plant densities	Journal of Kerbala for Agricultural Sciences 5(2): 221-239	2018
25	Phenotypic, Genotypic Correlation and Path Coefficient For Several Traits of <b>Maize</b> Under Watered and Water Stress.	Conference: International Conference on Promotion of Scientific &Regional Cooperation On Food and Agriculture Sciences	2018
26	Estimation of some genetic parameters in <b>maize</b> under adequacy and insufficient water .	Journal of Kerbala for Agricultural Sciences (special issue)53-65	2018
27	Estimation of some genetic parameters in <b>Bread wheat</b> ( <i>Triticum Aestivum</i> L.) for wasit and diwaniyya locations	Euphrates J. of Agriculture Sci. 10(1): 194-203	2018
28	Evaluation the performance of double, single hybrids and inbreds of maize under different plant population and estimation heterosis and hybrid vigor ( <b>some growth criteria</b> )	The 8 <sup>th</sup> international conference on urban planning (Jourdan)	2018
29	Estimation of some genetic parameters for grain yield and its components of maize under watered and water stress	Int.J.Agricult.stat.sci.14(2):5 53-559	2018



<b>30</b>	<b>SOME GENETIC PARAMETERS, HERITABILITY AND GENETIC RESULTANT AS AFFECTED BY GENOTYPES AND POPULATIONS IN <b>SUNFLOWER</b>.</b>	<b>THE ANBAR JOURNAL OF AGRICULTURAL SCIENCES</b> <b>17(1): 29-43</b>	<b>2019</b>
<b>31</b>	Estimation of some genetic parameters under plant density in <b>sunflower</b> .	<b>Journal of Kerbala For Agricultural Sciences</b> Vo. 6 No. <b>1</b> <b>2019 March</b>	<b>2019</b>
<b>32</b>	Phenotypic, Genotypic Correlation and Path Coefficient for Several Traits of <b>Maize</b> Under Watered and Water Stress.	<b>Journal of Global Pharma Technology</b> <b>11(2): 76-86</b>	<b>2019</b>
<b>33</b>	<b>Phenotypic, genotypic correlation and path coefficieant for several traits of <b>maize</b> under watered and water stress (agronomic traits)</b>	<b>Plant Archives J.</b> <b>19(2): 4179-4188</b>	<b>2019</b>
<b>34</b>	<b>EFFECT OF PLANTING DISTANCE ON YIELD AND YIELD COMPONENTS OF FOUR INTRODUCED UPLAND <b>RICE</b> VARIETIES UNDER AEROBIC CONDITIONS</b>	<b>Plant Archives</b> <b>Vol. 19 No. 1, 2019</b>	<b>2019</b>
<b>35</b>	The comparison of several methods for calculating the degree of heritability and calculating the number of gene.  II Yield components	<b>International Journal of Agricultural and Statistical Sci.</b>  <b>15(2):789-794</b>	<b>2019</b>
<b>36</b>	Evaluation of Maize Hybrids, their Inbreds and Estimation of Genetic Divergence Based on <b>Cluster</b> Analysis.	<b>Indian JOurnal of Ecology</b> <b>46(8): 102-107</b>	<b>2019</b>
<b>37</b>	The comparison of several methods for calculating the degree of heritability and calculating the number of gene in maize( <i>Zea mays</i> L.). I Agronomic traits.	<b>Int. J.of Agricult. Sci.</b> 1-9	<b>2019</b>
<b>38</b>	<b>Phenotypic, Genotypic Correlation and Path Coefficient in sunflower(<i>helianthus annnuus</i>).</b>	<b>Plant Archives</b> <b>19(1): 765-771</b>	<b>2019</b>
<b>39</b>	Evaluation of the performance of triple, single crosses and their inbred lines of maize under two plant population	<b>Plant Archives J.</b> <b>Vol. 20 Supplemwnt 1 :</b> <b>1705-1716</b>	<b>2020</b>
<b>40</b>	Evaluation of the performance of introduced varieties of maize under different planting dates and environments	<b>Plant Archives J. Vol. 20</b> <b>Supplemwnt 1 : 2036-2045</b>	<b>2020</b>
<b>41</b>	Study the GCA and SCA effects of five inbred lines of maize according to half diallel mating system.	<b>-Qadisiyah J.</b> 10(2): 343-348	<b>2020</b>
<b>42</b>	Evaluation of the performance of triple, and single parents from maize under two plant densities for some growth parameters associated with the crop.	<b>The 16<sup>th</sup> International Conference of Crop Science</b>	<b>2020</b>

43	Evaluation of the performance of triple crosses and their parents of maize under two plant densities	Al-Muthanna L. for Agric. Sci. 8(2):	2021
44	Some genetic parameter for maize under different planting dates and environments	Al-Muthanna L. for Agric. Sci. 8(2):	2021
45	Evaluating the performance of introduced varieties of maize under different planting dates and environments for some genetic parameters(LAI, TDM, DTM, CGR)	Al-Muthanna L. for Agric. Sci. 8(2):	2021
46	Evaluating the performance of <b>introduced</b> varieties of Maize ( <i>Zea mays</i> L.) And estimating some genetic parameters	Int. J.of Agricult. Stat. Sci. 17(1): 85-91	2021
47	<b>Water Use Efficiency by Effect of Three Irrigation Periods of Sunflower Varieties</b>	Indian Journal of Ecology (2022) 49 Special Issue (19): 439-445	2021
48	Some Genetic Parameters and Path Coefficient of Three-way crosses in maize	IOP Conf. Series: Earth and Environmental Science 910 (2021) 012099 doi:10.1088/1755-1315/910/1/012099	2021
49	Estimation of some genetic parameters of introduced rice varieties under different planting distance ( <i>Oryza sativa</i> L.)	NeuroQuantology 2022; 20(6):975-982	2022
50	STUDY OF SOME GROWTH CRITERIA (LAI, TDM, DTM, CGR) OF INTRODUCED VARIETIES OF MAIZE BY THE EFFECT OF THREE PLANT DENSITIES	NeuroQuantology 2022; 20(5):1212-1220	2022
51	STUDY OF YIELD AND ITS COMPONENTS OF INTRODUCED VARIETIES OF MAIZE UNDER DIFERENT PLANTING DENSITIES	Iraqi Journal of Market Research and Consumer Protection 14(1): 52-64	2022
52	Drought and Maize Breeding	IOP Conf. Series: Earth and Environmental Science1060 (2022) 012114	2022
53	Estimating genetic parameters of maize hybrids and parents under different plan densities ( Combining ability for yield and some other traits for maize <i>Zea mays</i> L.)	Revista Bionatura J. 8(1):1-10	2023

54	Hybrid vigor for triple crosses and their parents of maize <i>Zea mays</i> L. under two plant population	Mesopotamian Journal of Marine Science to Article	Acceptable for publication
55	Evaluation of the performance of maize under different planting dates and environments (growth traits.)	Mesopotamian Journal of Marine Science to Article	Acceptable for publication
56	Evaluation of the performance of introduced genotypes of maize <i>Zea mays</i> L. under different planting dates and environments in field and field	Mesopotamian Journal of Marine Science to Article	Acceptable for publication
57	Irrigation Water Use Efficiency by Effect of interval of Sunflower Varieties	Mesopotamian Journal of Marine Science to Article	Acceptable for publication
58	Evaluation genetic parameters of introduced genotypes of maize under plant density	Mesopotamian Journal of Marine Science to Article	Acceptable for publication
59	Estimation of some genetic parameters by diallel cross analysis of maize hybrids and parents under different plant densities	Mesopotamian Journal of Marine Science to Article	Acceptable for publication