

University : Telafer
 Faculty: College of Basic Education
 Department: Mathematic
 Stage: Second
 Subject: Geometry
 Semester: Second



Republic of Iraq
 Ministry of Higher Education & Scientific
 Research

Course Weekly Outline

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|---|--|--------------------------|---------------------|-------------------------|
| Name | Rana Zaidan Al-Kawaz | | | |
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| Qualification | Master of Mathematics Science | | | |
| Scientific title | Lecturer | | | |
| Work site | Department of Mathematic / College of Basic Education / University of Telafer | | | |
| Course objective | <ol style="list-style-type: none"> 1- Axiomatic system, Yunk and Fano system, properties of the Axiomatic system. 2- The geometry of the concept of Euclid, the parallel hypothesis, some attempts to prove the parallel hypothesis 3- Ptolemy's Attempt, Omar Khayyam's Proof, Nasr al-Din al-Tusi's Proof, Proclus' Attempt, Ether al-Din al-Abhari's Proof, Wallace's Proof, Helaby System and Its Definition. 4- Evolution of non-euclidean geometry (istomic geometry, elliptic geometry) 5- Comparison of Geometry (Euclidean and Non-Euclidean) | | | |
| Course description | The student learns how to differentiate between axiomatic systems, the importance of their existence, how to use axioms and theorems in proof, and then distinguish between Euclidean and non-Euclidean axiomatic systems. Geometry lectures are given in 3 theoretical hours each week. | | | |
| Methodology books | <ol style="list-style-type: none"> 1. آمال شهاب المختار "مفاهيم أساسية في الهندسة" الطبعة الأولى، جامعة بغداد-العراق سنة 1992. 2. سليم حسن الكنتي "منهج البحث العلمي في الرياضيات" جامعة تكريت-العراق سنة 1997. 3. عبد الوهاب احمد السراج "نظم البديهيات والهندسة" الطبعة الأولى، جامعة صلاح الدين-العراق سنة 1985. 4. محمد إبراهيم راشد وعبد الله حمود الزعبي "مبادئ الهندسة الحديثة الاقليدية واللااقليدية" الطبعة الأولى، دار عمان للنشر والتوزيع-عمان. 5. نوري فرحان المياحي وآخرون "نظم البديهيات والهندسة واللااقليدية" جامعة القادسية سنة 2006. 6. هاشم الطيار ويحيى عبد سعيد "موجز تاريخ الرياضيات" جامعة الموصل سنة 1977. | | | |
| External sources | <ol style="list-style-type: none"> 1. Adler. C.F. Mc Grow-Hill Book Company " Modern Geometry", 1967 2. Bonola R. Non-Euclidean" 1955 " 3. Coxeter. H.S.M" Introduction to Geometry 1961 " 4. Golos. E.B" Foundations of Euclidean and Non-Euclidean Geometry ", 1968 5. Wolfe. H.E " Introduction to Non-Euclidean Geometry 1945 " | | | |
| Ratings (Division of grades) | First assessment | Second assessment | Annual quest | Final assessment |
| | 25 % | 25 % | 50 % | 50 % |

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| Week | Date | Article theoretical and practical |
|------------|------|---|
| First | | The emergence of Euclidean geometry |
| Second | | The axiomatic system, the projective plane. |
| Third | | Harmonious plane. |
| Fourth | | Yunk system |
| Fifth | | Fano system |
| Sixth | | Properties of axiom order, property of consistency |
| Seventh | | Midterm Exam |
| Eighth | | Independence property |
| Ninth | | The geometry of Euclid's concept, the parallelism hypothesis, some attempts to prove the parallelism hypothesis. |
| Tenth | | Ptolemy's Attempt, Omar Khayyam's Proof, Nasr al-Din al-Tusi's Proof, Proclus' Attempt, Ether al-Din al-Abhari's Proof, Wallace's Proof |
| Eleventh | | The Hellbrian System Definition, and its components. |
| Twelfth | | The emergence of non-euclidean geometry (istomic geometry and elliptic geometry). |
| Thirteenth | | Comparison of geometries (Euclidean and non-Euclidean). |
| Fourteenth | | Midterm Exam |
| Fifteenth | | Final Exam |