

**COURSE DATA****Data Subject**

Code	34721
Name	Orthodontics II
Cycle	Grade
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1206 - Degree in Dentistry	Faculty of Medicine and Odontology	5	First term

Subject-matter

Degree	Subject-matter	Character
1206 - Degree in Dentistry	21 - Orthodontics	Obligatory

Coordination

Name	Department
BELLOT ARCIS, CARLOS	131 - Stomatology

SUMMARY

The Orthodontics II subject includes the clinical part of the basic concepts acquired in Orthodontics I. This, make of it the discipline that provides to the students the knowledge about diagnosis and type of treatment needed to the correction of different malocclusions.

It is closely related to other disciplines including surgery, periodontics, prosthodontics to achieve different interdisciplinary treatments goals thus knowledge acquired by the student through out the course whose ultimate goal is the theoretical and practical application. All this considering the patient from a holistic prespective.

Students are reminded of the great importance of carrying out evaluation surveys of all the teaching teachers of this subject.



PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

1206 - Degree in Dentistry :

1210 - Grado de Odontología 2012 :

R4-OBLIGATION TO HAVE SUCCESSFULLY COMPLETED THE COURSE

34720 - Orthodontics I

34720 - Orthodontics I

Other requirements

The applicant must have passed the subject Orthodontics I enclosed in the 4th year. In this subject the student must have acquired basic knowledge of cranial anatomy, growth, histology and biomechanics. The student must be able to handle the tools necessary to conduct a comprehensive diagnosis of malocclusion also know how to apply the set of orthopedic and orthodontic techniques and therapeutic methods.

The student must know and distinguish the different devices and techniques either orthopedic or orth

OUTCOMES

1206 - Degree in Dentistry

- Saber realizar un examen bucal completo, incluyendo las oportunas pruebas radiográficas y de exploración complementarias, así como la obtención de adecuadas referencias clínicas
- Conocer y aplicar el tratamiento básico de la patología bucodentaria más habitual en pacientes de todas las edades. Los procedimientos terapéuticos deberán basarse en el concepto de invasión mínima y en un enfoque global e integrado del tratamiento bucodental.
- Realizar modelos diagnósticos, montarlos y tomar registros inter-oclusales.
- Elaborar las prescripciones de los productos sanitarios a medida «prótesis dentales» y «aparatos de ortodoncia y ortopedia dento-facial».
- Planificar, determinar las características específicas de diseño, registros, prescripción, pruebas clínicas, colocación y ajuste clínico para puesta en servicio de mantenedores de espacio fijos y removibles y técnicas de ortodoncia interceptiva así como elementos activos extraíbles destinados a desplazar dientes o corregir mordidas cruzadas.
- Identificar y corregir hábitos bucales susceptibles de causar o exacerbar maloclusiones.



LEARNING OUTCOMES

Students must be able to:

- Analyze and interpretate dental records to have a correct diagnosis and treatment.
- Describe and assess the discoveries found in the dental records
- Know in-depth dentition development and craniofacial growth
- Recognize orthodontic devices and the biomechanic base for its use.
- Be prepared for the incorporation of the different possibilities of orthodontic treatment and its use in the multidisciplinary treatment.
- Know well the ethic look and the iatrogenic risks of orthodontic treatment and the attitude we have to take on
- Be competent in deviations of normality interpretation, in the habits development and know to use the correct treatment.

DESCRIPTION OF CONTENTS

1. Treatment of transverse malocclusions.

Etiopathogenesis. Differential diagnosis. Therapeutic principles. Crossbites treatment. Biomechanical Designs. Appliances. Timing of treatment. Treatment scissor bite. Results.

2. Temporary Teeth Treatment.

Dental and skeletal diagnosis. Therapeutic targets. Indications. Types of treatments. Orthodontic and orthopedic designs. Results.

3. Two bands appliance.

Palatine Bar. Quad-Helix. Lingual arch. Lip Bumper. Rapid palatal expander. Pendulum. Lingual grid.

4. Over bite treatment.

Development. Pathogenetic factors. Clinical features. Differential diagnosis. Biomechanical Designs. Results.



5. Open Bite Treatment

Development. Pathogenetic factors. Clinical features.

6. Treatment of Class I.

Treatment without extractions. Appliances, advantages and disadvantages of each type. Problems and their correction.

7. Growth modification. Functional appliances.

Historical evolution. Forms of action. Types of designs. Orthopedic and dental muscular action. Indications. Limitations.

8. Treatment with extractions.

Historical evolution. Types of biomechanical designs. Indications and contraindications. Orthopedic and dental action. limitations.

9. Treatment of Class II, Division 1.

Characteristics. Etiopathogenesis. Analysis. extra- and intraoral analysis. Tooth development. Growth. Cephalometric analysis. Treatment plan.

10. Treatment of Class II, Division 2.

Etiopathogenesis. Analysis. extraoral and intraoral analysis. Functional test. Therapeutic criteria: mechanical designs.

11. Treatment of Class III.

Classification. Etiopathogenesis. Intraoral analysis. Cephalometric analysis. Differential diagnosis. Therapeutic aims.

12. Interdisciplinary Treatment: Orthodontics and Surgery.

Types of combination therapies. Morphological and functional diagnosis. Opportunity treatment. Orthognathic surgery techniques. Presurgical orthodontic preparation. Splints design and ATM. Surgical treatment. Postsurgical orthodontic treatment.



13. Adult Treatment.

Biological differences. Therapeutic aims. Treatment plan. Limitations. Pathological conditions. Types of treatment: orthodontics, surgery, periodontics. Comprehensive treatment. Iatrogenic hazards. Results.

14. Pre-prosthetic orthodontics and implants.

Orthodontic diagnosis. Therapeutic aims. Indications. Treatment plan. Prosthetic-orthodontic combinations. Limitations. Results. Indications of implants: anchorage. Anterior orthodontic preparation. Space conditions: agenesis, straightening and closing space. Advantages and limitations of the implant.

15. Periodontics and Orthodontics.

Periodontal diagnosis. Orthodontic movement in the periodontal patient. Monitoring periodontal orthodontic treatment. Presurgical orthodontics. Periodontal Surgery: frenulum, recessions and dental impaction.

16. Using miniscrews in Orthodontics.

Orthodontic anchorage concept: Biomechanical Considerations. Miniscrews types. Miniscrews situation: Maxilla and Mandible. Clinical application of miniscrews. Placing miniscrews: Surgical Procedures. Successes and failures of miniscrews. Clinical cases.

17. Retention and relapse.

Concept retention and relapse. Principles need for stability post-corrective retention. Duration of retention. Etiology of recurrence. Retainers design. Minor surgery: recurrence preventive measures. Dental remodeling. Treatment of relapse.

18. Orthodontics in craniofacial anomalies treatment.

Concept and classification of craniofacial anomalies. Etiopathogenic remember. Types of treatment. Objectives of orthodontic treatment. Harelip.

19. Iatrogenic problems of orthodontic treatment.

Root resorption. Factors. Preventive measures. Other tissue damage.

**20. Prophylaxis in orthodontics.**

Prevention of caries and gingivitis before, during and after orthodontic treatment.

21. Treatment of included canines

Etiology. Prevalence. Diagnosis. Treatment. Spontaneous eruption.

22. Research methods.

Evidence based medicine. PICO question. Register in Prospero. PRISMA criteria, inclusion and exclusion criteria. Results and Discussion.

WORKLOAD

ACTIVITY	Hours	% To be attended
Laboratory practices	54,00	100
Theory classes	26,00	100
Classroom practices	10,00	100
Development of group work	15,00	0
Readings supplementary material	15,00	0
Preparation of practical classes and problem	15,00	0
Resolution of case studies	15,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

Free text describing teaching methodology on the subject. This information should be coherent with the content of the subject seminar.

Text can be written in bold or cursive formats.

Maximum space 2 pages. Space recommended, less than 1 page.

1. THEORY: 2 hours per week. Acquisition of knowledge by theory with active participation.
2. WORKSHOP: 2 hours per week. Practice and interaction of the theory. The student will follow the practice guide in order to follow the content in a straight forward way. Ability for diagnosis and treatment plan.



SEMINARS. 1 hour per week. Seminars will help students to make a monographic issue by reading selected articles

EVALUATION

Evaluation in three blocks: theory, practical and seminars. Each part must be passed independently

1. Theory (test of multiple choices (50%). 50 questions of 4 options, only one is the correct answer. 3 wrong answers deducts 1 correct answer. The minimum score to pass the test is 5. Eligible for second practice exam needs to pass the theory first. This practice exam includes all theory, clinical practice and seminars.
- 2 Practical written test (30%) about diagnosis and treatment plan of two clinical malocclusion cases. Needs to be pass individually.
3. Practical knowledge evaluation. Must be pass before going to theory test.
4. Assessment of the working seminar by the group- Must be pass before going to theory test.

In order to access to an advance on the call of this subject, it is a requirement that the student has coursed with benefits all his/her practices.

REFERENCES

Basic

- Canut J.A. (2000). Ortodoncia clinica y terapéutica. Barcelona, Masson
- Proffit W.R. (2013). Contemporary orthodontics. 5th ed. St. Louis, Mosby
- Bravo L.A. (2007) Manual de Ortodoncia. Madrid, Sintesis.

Additional

- Graber T.M., Vanarsdall R.L., Jr., Vig K.W.L., Vanarsdall R.L. (2006). Ortodoncia: principios y técnicas actuales. España, Elsevier España.
- Huang G.J., Richmond S., Vig K.W.L. Evidence-Based Orthodontics (2018).