**SYLLABUS**

1. **Programme Details**

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| **1.1.** | **GRIGORE T. POPA UNIVERSITY OF MEDICINE AND PHARMACY IASI** |
| **1.2.**  | **FACULTY :DENTAL MEDICINE / DEPARTMENT II: ODONTOLOGY-PERIODONTOLOGY-FIXED PROSTETICS** |
| **1.3.** | **DISCIPLINE: ENDODONTICS** |
| **1.4.**  | **FIELD of STUDY: HEALTH** |
| **1.5.** | **STUDY CYCLE: BACHELOR**  |
| **1.6.** | **PROGRAMME of STUDY: English**  |
| 1. **Discipline Details**
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| **2.1.** | **Name of the Discipline:** Endodontics |
| **2.2.** | **Teaching staff in charge with lectures: Lect. Dr. Liana Aminov** |
| **2.3.** | **Teaching staff in charge with seminar activities: Lect.Dr. Liana Aminov, Asist.dr.Yllka Decolii, Asist.dr.Cristian Giuroiu** |
| **2.4. Year**  | **IV** | **2.5. Semester** | **I/II** | **2.6. Type of evaluation**  | Exam | **2.7. Discipline regimen**  | Mandatory |

1. **Overall Time Estimates (hours/semester of didactic activity)**

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| * 1. **Number of hours per week**
 | 4,56 | **Of which: 3.2. lectures** | 1,71 | * 1. **seminar/ laboratory**
 | 2,85 |
| * 1. **Total hours in the curriculum**
 | 128 | **Of which: 3.5. lectures** | 48 | **3.6. seminar/ laboratory** | 80 |
| **Distribution of time**  |  |  |  |  | Hours |
| **Study time using coursebook materials, bibliography and notes**  | 45 |
| **Further study time in the libray, online and in the field** | 20 |
| **Preparation time for seminars / laboratories, homework, reports, portfolios and essays** | 40 |
| **Tutoring** | 7 |
| **Examinations** | 30 |
| **Other activities** | - |
| **3.7. Total hours of individual study** |  | 142 |
| **3.8. Total hours / semester** |  | 270 |
| **3.9. Number of credits**  |  | 9 |

1. **Prerequisites (where applicable)**

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| **4.1. curriculum** | * Biophysics
* Radiology
* Oro-dental diagnosis
* Cariology II
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| **4.2. competences** | * Knowing to make a complete clinical examination
* Knowing to evaluate o dental radiography
* Knowing to establishe oro- dental diagnostic at the clinic case.
* Knowing the techniques of root canal shaping and cleaning.
* Knowing the techniques and materials of root canal filling.
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1. **Conditions (where applicable)**

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| **5.1. for lecture delivery** | * The students should not be allowed to attend the course with their mobile phones turned on
* Telephone calls should not be allowed during the course
* Leaving the course room by the students for receiving phone calls should not be allowed
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| **5.2. for seminar / laboratory delivery** | * Complete execution of the practical standards
* The time of the submission for the individual project is set by the titular in agreement with the students.
* No delayed submission should be permitted except for reasonable grounds.
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1. **Specific Competences Acquired**

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| **Professional Competences (knowledge and skills)** | 1,Solid knowledge of the normal structure of the dental-pulp complex. 2. Competence in detecting and diagnosing the various pathological conditions of the dental pulp. 3. Knowing the possibilities of pulp vitality preservation. 4. Knowledge of creating an access path in order to remove the dental pulp.5. Knowledge of local and local-regional anesthesia techniques for the interventions  on the pulp tissue.6. Competence in endodontic space preparation through conventional and modern techniques. 7. Knowledge of working length determination methods in order to approach the endodontic space. 8. Mastery of the proper methods of treatment in acute and chronic pulp diseases. 9. Knowledge of the action of the substances used in dental drug therapy . 10. Knowledge of the materials and techniques used in radicular canals filling. 11. Mastery of the proper methods of treatment of the chronic and acute apical diseases. |
| **Transversal Competences (roles, personal and professional development)** | * To prove concern for professional development
* To prove implication in scientific activities such as the elaboration of scientific papers and specialized studies
* To participate in scientific projects compatible with the requirements of integration in European education
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1. **Obiectives of the Discipline (related to the acquired competences)**

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| **7.1. General Obiective** | * Acquering of knowledge regarding pulp pathology, implementation in current practice of the conservative treatment, of techniques and curative methodes in dental pulp diseases and the prevention of their subsiquent complications, with functional recovery of affected teeth.
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| **7.2. Specific Obiectives**  | * To adopt practical knowledge about clinical evaluation and diagnosis of pulpal-periodontal afections, root canal preparation and obturation techniques
* Knowing the surgical techniques related to the endodontic treatment.
* Knowing the restoring techniques for the endodontically treated teeth.
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1. **Contents**

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| **8.1. Lecture** | **Teaching methods**  | **Comments** |
| **1.** INTRODUCTORY COURSE: historical, objectives, interdisciplinary relations. Elements of pulp-dentinal biology. Histological and physiological characteristics of the pulp.. Functions of the dental pulp tissue. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 2 Etiopathogenesis of pulpopathies. Reaction of the pulp to different stimuli. Mechanism of pulp inflammation. Immune response. Pulp-dentinal sensitivity, mechanism of pain transmission. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 3. Endodontic morphology. Preoperative analysis for endodontic treatment. Approaching the endodontic space..  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 4. Endodontic instrumentation for access cavity preparation and canal shaping, classic and modern design. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 5. Reversible and irreversible acute pulp inflammation. Clinical and paraclinical examination, | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 6. Conservative methods of treatment: direct pulp capping, vital pulpotomy.  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 7. Radical methods for the treatment of pulpopathies: biopulpectomy, nonvital pulpotomy, chemical devitalization.  | Electronic presentation (MS PowerPoint) / Lecture | 2hours |
| 8. Root canal shaping: standard technique, crown-down and step-back techniques | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 9. Incidents and accidents during endodontic therapy. Solutions and ways of solving.  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 10. Chronic pulpitis. Necrosis and pulp gangrene. Etiopathogenesis, diagnosis, evolution, complications. Treatment Indications.  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 11. Radicular filling. Principles, techniques,  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 12. Radicular filling :sealants, filling materials.  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 13. Acute apical periodontitis. Diagnosis, clinical/paraclinical examination. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 14. Chronic apical periodontitis. Classification, diagnosis, clinical/paraclinical examination.  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 15. Canal chemo-mechanical treatment. Endodontic irrigants. Ultrasonics, laser. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 16. Intracanal medication. Antiseptics, antibiotics. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 17. Emergency treatment in endodontics: acute pulpitis, acute apical periodontitis, trauma. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 18. Endodontic surgery: indications and contraindications, techniques: periapical curettage, apical resection, root amputation, hemissection, premolarization, reimplantation.  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 19. Modeling the endodontic space through modern techniques: rotary instrumentation systems.  | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 20. Modeling of the endodontic space by modern techniques: US systems: piezoelectric, magnetostrictive. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 21. Means of magnification: magnifiers, microscopes in various clinical situations: narrow, calcified canals (geriatric appearance), perforations, additional canals. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 22. The role and use of biostimulating materials in various clinical situations: perforations, immature apex, internal, external resorbtions. Stem cells. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 23. Evaluation of endodontic treatment, prognosis. Restoration of nonvital teeth, whitening of nonvital teeth. | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| 24. FINAL COURSE | Electronic presentation (MS PowerPoint) / Lecture | 2 hours |
| **Bibliography**1. Liana Aminov, Maria Vataman, **Elements of Endodontic Pathology and Therapy,**

Ed. “Gr.T.Popa”, 20141. Bergenholtz G., **Textbook of Endodontology**, sec.ed., Ed. Wiley Blackwell, 2010;
2. Castellucci A: **Endodontics**. , vol.I , Ed. IL Tridente, 2004;
3. Castellucci A: **Endodontics.**, vol.II, Ed. IL Tridente, 2005;
4. Castellucci A: **Endodontics**, vol.III , Ed. IL Tridente, 2009;
5. Cohen S., Burns R.C.: **Pathways of the pulp**. Ed.Mosby St.Louis, 2006 ;
6. Ingle J.I., Bakland L.K.: **Endodontics.** Ed.Wiliams & Wilkins 2005 ;
7. Ingle J.I., **PDQ Endodontics**, Ed. Hamilton, London, 2005;
8. Ørstavik D., Ford Th.Pitt, **Essential Endodontology**, Ed. Blackwell, 2008;
9. Weine F.S.: **Endodontic therapy**. Ed.Mosby St.Louis, 2006
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1. **Correlations between the contents of the discipline and the expectations of the epistemic community, of profesional associations and of employers in the field**

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| The knowledge acquired in cariology and restorative odontotherapy represents a goal in the clinical and scientific education of the future dentist |

1. **Evaluation**

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| **Type of activity**  | **10.1. Evaluation criteria:**  | **10.2. Methods of evaluation** | **10.3. Percentage of final grade** |
| **10.4. Lecture** | Grade for multiple choice test | standardized multiple choice test | 50% |
| **10.5. Seminar / Laboratory** | Average grade of ongoing examinations | ongoing evaluation | 10% |
| Grade for practical examination | practical exam | 40% |
| **Minimum standard of performance: at least grade 5 to pass the discipline** |

**Date: 08.10.2018 Signiture of Didactic Co-ordinator**

**Name and surname: Lect. Dr.Anca Melian**

 **Signiture of Department Director Name and surname : Prof. Dr. Silvia Martu**