**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: SURGERY** |
| **1.3.** | **DISCIPLINE: DENTAL AND GENERAL RADIOLOGY** |
| **1.4.**  | **FIELD of STUDY:HEALTH** |
| **1.5.** | **STUDY CYCLE: BACHELOR**  |
| **1.6.** | **PROGRAMME of STUDY: Dental Medicine - English**  |
| 1. **Discipline Details**
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| **2.1.** | **Name of the Discipline: DENTAL RADIOLOGY** |
| **2.2.** | **Teaching staff in charge with lectures: Prof. Dr. Danisia Haba** |
| **2.3.** | **Teaching staff in charge with seminar activities: Prof. univ. dr. Danisia Haba, Asist. univ. dr. Popescu Mihaela Roxana, Asist. univ. dr. Bogdan Dobrovat** |
| **2.4. Year**  | IV | **2.5. Semester** | **I/II** | **2.6. Type of evaluation**  | colloquy | **2.7. Discipline regimen**  | obligatory |

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

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| * 1. **Number of hours per week**
 | 5 | **Of which: 2 lectures** | 2 | 1. **seminar/ laboratory**
 | 3 |
| * 1. **Total hours in the curriculum**
 | 58 | **Of which:28 lectures** | 28 | **30 seminar/ laboratory** | 30 |
| **Distribution of time**  |  |  |  |  | Hours |
| **Study time using course book materials, bibliography and notes**  | 30 |
| **Furtherstudy time in the libray, online and in the field** | 10 |
| **Preparation time for seminars / laboratories, homework, reports, portfolios and essays** | 10 |
| **Tutoring** | - |
| **Examinations** | 5 |
| **Other activities** | - |
| **3.7. Total hours of individual study** |  | 55 |
| **3.8. Total hours / semester** |  | 58 |
| **3.9. Number of credits** |  |  4  |

1. **Prerequisites (where applicable)**

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| **4.1. curriculum** | Not applicable |  |
| **4.2. competences** | Not applicable |  |

1. **Conditions (where applicable)**

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| **5.1. for lecture delivery** | The courses will be held in an amphitheater equipped with computer and projector |  |
| **5.2. for seminar / laboratorydelivery** | Using the supplied material base |  |

1. **SpecificCompetencesAcquired**

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| **Professional Competences (knowledge and skills)** | **Annual skills:** Interpretation of radiographic films: normal radioanatomy of maxillary, dental caries, periapical processes, the periodontal disease, jaw fractures, mandibular fractures, odontogenic and neodontogenic tumors, sinusitis, and ATM damage of the salivary glands.**Final skills:**Interpretation of radiographic films: normal radioanatomy of maxillary, dental caries and their complications (processes periapical cysts) , the periodontal disease, jaw fractures, mandibular fractures, odontogenic and neodontogenic tumors, sinusitis, and ATM damage of the salivary glands |
| **Transversal Competences (roles, personal and professionaldevelopment)** | * Demonstrate concern for professional growth
* Demonstrate involvement in scientific activities, such as publishing articles and studies

Participate in scientific projects that are compatible with the european requirements and integration in education |

1. **Obiectives of the Discipline (related to the acquired competences)**

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| **7.1. General Obiective** | * Recognition of normal and pathological radiologic appearance
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| **7.2. Specific Obiectives** | * Performing four dental radiography using Cieszynski-Dieck technique, parallel plans technique, bite-wing technique, occlusal (Belote and Simpson), OPT and cephalograms
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1. **Contents**

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| **8.1. Lecture (28 hours)** (Sem. I/ II) | **Teaching methods**  | **Comments** |
| 1.X–ray generating, nature and fundamental properties. Particularities of radiological imaging. The optical fundamental laws in creating images | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 2. X – ray generator .The dental X-ray machine – classic and digital | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 3.Biologic effects of radiations. Patient and operator protection in dental radiology | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 4.The dental radiological film. Film processing: the darkroom. Analisation of the error. Infection control in dental practice | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 5.Techniques and radiological methods with intraoral film: technique Dieck, Belot, Simpson, Raper, the paralleling method | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 6. Techniques and radiological methods with extraoral film. Dento-maxillary exploration with panoramic radiography and CBCT | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 7.Film mounting and radiographic anatomy of dento-maxillary structures | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 8.Radiological aspects in caries, pulpal and periapical lesions | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 9.Radiological diagnosis of periodontal disease. Techniques and radiological methods used in edentation | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 10.Radiological diagnosis of developmental disturbances of teeth and developmental disturbances of maxillary bone | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 11.Radiological aspects in maxillo-facial traumas and in their complications | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 12.Radio-imaging diagnosis in benign dento-maxillary tumors | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 13.Radio-imaging diagnosis in malignant dento-maxillary tumors | Electronic Presentation (MS PowerPoint) | 2 hrs |
| 14.Normal and pathological radiological aspects of temporo-mandibulary joint and salivary glands. Techniques and radiological methods using in teeth implantology | Electronic Presentation (MS PowerPoint) | 2 hrs |
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| **8.2. Seminar / Laboratory (30 hours)** | **Teaching methods**  | **Comments** |
| 1.X–ray generating, nature and fundamental properties. Particularities of radiological imaging. The optical fundamental laws in creating images. | Electronic Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 2.X – ray generator .The dental X-ray machine – classic and digital. Biologic effects of radiations. Patient and operator protection in dental radiology | Electronic Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 3.The dental radiological film. Film processing: the darkroom. Analisation of the error. Infection control in dental practice  | Electronic Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 4.Techniques and radiological methods with intraoral film: technique Dieck, Belot, Simpson, the paralleling method | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 5.Techniques and radiological methods with extraoral film.  | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 6.Radiological aspects in caries, pulpal and periapical lesions | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 7.Radiological diagnosis of periodontal disease. Techniques and radiological methods used in edentation.  | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 8.Radiological aspects in maxillo-facial traumas and in their complications | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 9.Radio-imaging diagnosis in benign and malignant dento-maxillary tumors | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 10.Normal and pathological radiological aspects of temporo-mandibulary joint and salivary glands. Techniques and radiological methods using in teeth implantology | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 11. Radiological diagnosis of developmental disturbances of teeth and developmental disturbances of maxillary bone | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 12. Dento-maxillary exploration with panoramic radiography and CBCT | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 13. Dento-maxillary exploration with CBCT | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| 14. Review | Presentation (MS PowerPoint) /practical demonstration | 2 hrs |
| **Bibliography :**1. **Danisia Haba, "Tehnici uzuale folosite în radiologia dentară",** Ed. Junimea, 190 pagini, 2005.
2. **Danisia Haba, " Radioanatomia CT şi IRM a regiunilor profunde ale feţei- îndrumar practic",** Ed. Junimea, 150 pagini, 2005.
3. **Danisia Haba. Tehnici de explorare a masivului facial, Editura “Gr.T.Popa”, U.M.F. Iasi, 2008.**
4. **Danisia Haba.Imgistica dento-maxilo-faciala. Editura “Gr.T.Popa”, U.M.F. Iasi, 2007.**
5. **Eric Whaites, „ Essentials of Dental Radiography and Radiology”,** Ed. Elsevier, 2003.

**F A. Pasler, „Pocket Atlas of Dental Radiology”,** Ed. Thieme, 2007 |
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1. **Correlationsbetweenthecontents of the discipline and theexpectations of theepistemiccommunity, of profesional associations and of employers in thefield**

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| The knowledge acquired in DENTAL RADIOLOGY represents a requirement in education and scientifical formation 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 ongoingexaminations | ongoing evaluation | 10% |
| Grade forpracticalexamination | practical exam | 40% |
| **Minimum standard of performance: at least grade 5 to pass the discipline** |

**Date: 10.10. 2018 Signiture of Didactic Co-ordinator**

 **Prof. Dr. Danisia Haba**

**Signiture of Department Director**