



Jordan University of Science and Technology
Faculty of Dentistry
Dental Surgery Department

DENT706 Dental Implantology

First Semester 2023-2024

Course Catalog

2 Credit Hours. Course Title Dental Implantology Course Number Dent 706 Prerequisites none Course Website www.just.edu.jo/faculties/dentistry E-mail raalhabashneh@just.edu.jo Course Aims and Objectives This is a 2-credit hour postgraduate theoretical course. This course is devoted to the fundamentals of Implant Dentistry in order to provide grad students with basic concepts and foundation for the art and Science of dental implant. . Course Main Objective By the end of this course the student will be able to: 1. Demonstrate comprehensive knowledge regarding principles and techniques of dental implant placement in simple and complicated situations. 2. Utilize modern diagnostic aids to select suitable size of implant, surgical need, and best treatment to an implant patient. 3. Describe surgical procedures related to dental implantology 4. Perform clinical and lab procedures required to rehabilitate the partially or completely edentulous patient by dental implants Course Learning Outcomes Aligned PLOs CLOs K1 Knowledge 1 Recognize the basic facts and concepts needed for the diagnosis and treatment of dental implant cases Skill 2 S3 Develop critical thinking and reasoning skills to create treatment plan of dental implant cases. S2 Demonstrate hand-eye coordination skills for management of different dental implant rehabilitation procedures. C3 Competence 3 Use modern technology and medical informatics in management of dental implant required Textbooks Contemporary Implant dentistry (Latest edition) by Cral Misch and Craig Misch Implant dentistry at a glance (Latest edition) by Jacques Malet Implant Laboratory Procedures: A Step-by-Step Guide by Carl Drago Essential References Materials Journal of prosthetic dentistry European Journal of dental Implantology Journal of oral implantology Electronic Materials <http://www.pubmed.com> Other Learning Materials Power point and video Course Learning Outcomes Teaching Strategies Assessment Methods 1.0 Knowledge K1-3 Recognize the basic facts and concepts needed for the diagnosis and treatment of dental implant cases. Lecture Lab Clinical Session Written exams. Oral exam. Practical exam. OSPE / OSCE. Assignments. 2.0 Skills S3.18 Develop critical thinking and reasoning skills to create treatment plan of dental implant cases. Lecture Lab Clinical Session Written exams. Oral exam. Practical exam. OSPE / OSCE. Assignments. Case based scenario / Problem based learning. Weekly assessment. S6.14 Demonstrate skills for hand-eye coordination during patient clinical examination, diagnosis and treatment planning for dental implant. Lecture Lab Clinical Session Written exams. Oral exam. Practical exam. OSPE / OSCE. Assignments. Case based scenario / Problem based learning. Weekly assessment. Approved procedures documented in logbook. 3.0 Competence C3,4 Use modern technology and medical informatics in management of dental implant. Lab Clinical Session Practical / clinical exam. OSPE / OSCE. Case based scenario / Problem based learning. Approved procedures documented in logbook. Research projects. E. Student Academic Counseling and Support Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice : Availability of the staff will be placed in front of the office in staff schedule as office hours. Academic advising unit for each year functions separately, it will hold periodic meeting with the students for feedback. Students will be informed in advance to assemble themselves in the classroom for discussions regarding difficulties in learning, attendance, facilities, etc. Students will be encouraged towards use of internet sources and library for the study and completion of the assignments Effectiveness of teaching and assessment Students ? Course Evaluation Survey Quality of Exam Survey Faculty ? CLO Mapping with teaching & assessment. Course Blueprinting Grade Analysis Psychometric Analysis Peers Grade Verification Extent of achievement of course learning outcomes Faculty member / Quality assurance committee Direct assessment outcome analysis Course report preparation Quality of learning resources, etc Students / Faculty ? Academic advising survey Student experience survey Course Content Week Topics 1. Introduction, Principles, implant design and terminology K1, 2 Tissue interfaces and biologic principles of osteointegration 3 Fixture surface type-Biomechanical interaction 4 Implant placement concern-Local and Systemic 5 Advanced Surgical technique Hard tissue Augmentaion 6 Implant in the esthetic zone 8 Gingival and soft tissue management around implant 7 Diagnosis and treatment planning 8 Prosthetic consideration & Role of occlusion 9 Immediate implant placement 10 Biomechanical Loading& and immediate loading 11 Perimplantitis ?new classification 12 Selection of the abutment , prosthetic component and impression techniques 13 Maintenance and Microbiology around dental implants Learning objectives Be able to assess individual tooth prognosis and whether it should be saved or extracted in clinical practice Be able to assess the suitability of a tooth as a potential bridge abutment in clinical practice Appreciate the indications and benefits of implants and how to communicate this to patients Appreciate success rates for endodontic treatment in clinical practice Understand implant survival vs success and mechanical and biological complications in clinical practice Appreciate reasons for failures of implants in clinical practice and patient communication of risk factors Appreciate role of tooth hemisection/root re-section as an alternative to tooth extraction in clinical practice Appreciate the role of adhesive bridgework as an alternative to implant treatment in clinical practice Appreciate the role of partial dentures as an alternative to implant treatment and use of precision crowns, magnets, and locator abutments in clinical practice Appreciate the role of sub coping bridges as an alternative to full arch implant bridgework and the ?all on 4? concept in clinical practice Be able to understand the design features of implants and the abutment interface Understand the possible role of implant design features and the abutment interface features in long term functional and aesthetic stability Appreciate the factors that need to be assessed when predicting possible implant aesthetic outcomes in clinical practice Understand the applications of CBCT in implant dentistry, oral surgery, endodontics and facial pain in clinical practice Appreciate the importance of periodontal diagnosis and risk assessment in implant cases Understand the nature of periodontal disease, mucositis and peri-implantitis in clinical practice Be able to undertake a comprehensive risk based periodontal examination in clinical practice Understand periodontal treatment therapies and barriers to successful clinical treatment Be able to periodontally risk assess individual teeth in clinical practice Understand periodontal stability and its importance prior to implant therapy in clinical practice Appreciate the relevance of occlusion in implant dentistry Appreciate implant occlusally related complications that can occur in clinical practice Understand the concept of the ?protected occlusion? in clinical practice Be able to identify the features of the ideal occlusion in clinical practice and occlusal disorders Understand the envelope of function and clinical treatment of the restricted envelope Appreciate how to avoid encroaching on the envelope of function with dental restorations and the role of the custom incisal guidance table Understand the role of the articulator in implant dentistry in clinical practice Appreciate the features and importance of the functional aesthetic diagnostic wax up in clinical practice Appreciate occlusal issues specific to implant clinical practice Understand the role of bruxism in influencing implant clinical protocols Be able to select the appropriate abutment material for a predictable long term aesthetic and functional result in clinical practice Be able to risk assess implant treatment in the aesthetic zone Appreciate possible techniques for increasing the aesthetic predictability of implant treatment in the aesthetic zone Understand the ovate pontic technique in the aesthetic zone in clinical practice Understand the principles and materials including limitations of the ridge preservation technique Appreciate aesthetic restorative implant led treatment planning including the role of CBCT and software planning techniques Appreciate the restorative phases in the aesthetic screw retained bridge case Understand the limitations of full dentures and how implant assisted dentures may improve this in clinical practice Be able to recognise the significant anatomical structures in the mandible and maxilla that impact on implant surgery and implications for violation Recognise variations in surgical anatomy that may impact on implant surgery Understand anatomical variations in bone quality and how this may influence surgical technique/protocols Appreciate the microbiology of successful and failing implants and its influence on implant techniques/protocols Understand the principles of wound healing and how to reduce bacterial load in clinical practice Appreciate clean versus sterile surgical technique and how to undertake this in clinical practice Understand and appreciate the role of antibiotics and antimicrobials in implant surgery Understand the role of pain management in implant surgery including I.V. sedation, long acting anaesthetic and analgesia Appreciate the role of restorative: aesthetic planning in guiding implant surgery Understand the role of CBCT in surgical planning and the digital workflow Appreciate the factors in aesthetic risk based assessment in implant dentistry Appreciate the classification and treatment of alveolar ridge defects in clinical practice Understand the timing of implant placement in relation to stability and wound healing Appreciate the importance of 3 ? D implant positioning and the role of surgical guide stents Understand the choice of implant width and length in different anatomical locations and clinical situations Appreciate the various systemic conditions that may impact in implant or contraindicate implant treatment Understand the stages in implant wound healing Understand how implant surfaces have been modified to influence wound healing and possible long term success Appreciate primary and secondary implant stability and its influence on clinical techniques/protocols Understand the role of alveolar ridge preservation including limitations and complications Intended learning outcomes Graduates of the Graduate Diploma in Clinical Dentistry (Implants) will be able to: Articulate advanced understanding of the changing knowledge base of surgical and restorative dental implant treatment. Critically appraise, interpret and apply evidence with regards to current developments and research methods in surgical and restorative dental implant treatment. Demonstrate specialist skills in the provision of clinical services applicable to surgical and restorative dental implant treatment. Develop and implement dental implant treatment plans to optimise patient outcomes. Critically appraise, interpret and apply evidence to answer specific clinical questions, and a commitment to the generation and sharing of new knowledge with patients, the dental community and the general public. Generic skills Communication Graduate attributes Professionalism the ability to apply reflective practice skills and a recognition of their importance in health care empathy, compassion, honesty, integrity, resilience and lifelong curiosity, as well as the ability to demonstrate these and a recognition of their importance in health care Patient Care the ability to communicate with patients from diverse backgrounds, including the ability to listen to, respond to, and provide appropriate information to patients the ability to integrate and interpret clinical findings and apply clinical reasoning to arrive at an appropriate diagnosis or differential diagnosis the ability to formulate an evidence-based comprehensive treatment plan in collaboration with the patient, taking into consideration the best outcome for the patient

Teaching Method: Blended

Instructor

Name	Prof. Rola Al Habashneh
Office Location	-

Office Hours	
Email	raalhabashneh@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Mon : 08:30 - 09:30 Room: U

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Principal of dental implants	20%	
The history of dental implants evolution	20%	
Learning latest technology in dental implant	30%	
To consolidate and advance the knowledge and skills for participants in the field of Dental Implant	30%	

Relationship to Program Student Outcomes (Out of 100%)													
1.1 Scientific Knowledge and Cognitive Skills	1.2 Scientific Knowledge and Cognitive Skills	1.3 Scientific Knowledge and Cognitive Skills	1.4 Scientific Knowledge and Cognitive Skills	1.5 Scientific Knowledge and Cognitive Skills	1.6 Scientific Knowledge and Cognitive Skills	1.7 Scientific Knowledge and Cognitive Skills	2.1 Person Centered Care	2.2 Person Centered Care	2.3 Person Centered Care	2.4 Person Centered Care	3.1 Responsibility, Communication, Professionalism and Ethics	3.2 Responsibility, Communication, Professionalism and Ethics	3.3 Responsibility, Communication, Professionalism and Ethics

Evaluation	
Assessment Tool	Weight
Mid exam last week nov	30%

Policy	
Professionalism	<ol style="list-style-type: none"> 1. The student is required to attend all clinical sessions. 2. Attending the clinic in professional attire and with a professional conduct. 3. Treating all cases assigned by members of staff 4. Comprehensive knowledge of implant procedures 5. Always conform to the principles of infection control. 6. Fill in the special log sheet.

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