University / Academy: Future University in Egypt
Faculty / Institute: Faculty of Dentistry
Department: Orthodontic Department

Program specification

(Academic year 2016/2017)

A. Basic information:

1. Program Name: Master of Orthodontics

2. Nature of the program: Single

3. Department responsible for the program: Orthodontic Department

4. Departments sharing in the program:

- Oral Histology & Oral Pathology Department
- Oral Medicine, Periodontology, Diagnosis and Oral radiology Department
- Conservative Dentistry Department
- Supplementary General Sciences Department

5. Program coordinator: Prof.Dr.Essam Nassef

6. Internal evaluator: Prof.Dr.Nagwa El-Mangoury

7. External evaluator: Prof. Dr. Amr Aboul Ezz

8. Date of approval of the specification:

- 14/3/2016 (postgraduate affairs)

- 21/ 3 / 2016 (faculty council 47)

9. Date of approval of the program: 23 / 12 / 2013, Ministry of Higher Education (NO. 4794)

B. professional Information:

1. Overall aims of the program:

The graduates of master degree of Orthodontics should be able to:

1.1 Apply knowledge in the basic medical sciences and methodologies of scientific research and the use of its various tools

1.2 Apply of the analytical clinical methods and procedures and its use in Orthodontics.

1.3 Demonstrate specialized diagnostic, treatment interventions & biomechanical knowledge and integrate it with relevant anatomic, pathological & radiographical knowledge in his professional practice.

1.4 Demonstrate awareness of different craniofacial and orthodontic problems and advanced vision of the new techniques in Orthodontics.

1.5 Have a strong background in, diagnosing all different types of skeletal and dental orthodontic problems and their treatment methodologies.

1.6 Show capability in mastering appropriate range of orthodontic professional skills, and using the correct treatment approach and most recent techniques in management of different types of skeletal and dental orthodontic problems, as well as using the most recent technological means in diagnosing and treating the orthodontic cases.

1.7 Lead and communicate effectively in teamwork of other different dental specialties and auxiliaries, to provide the highest quality of treatment for the patients.

1.8 Demonstrate capability of decision making in different professional contexts with regard to Orthodontic treatment planning and mechanics.

1.9 Utilize and preserve all the available resources in the best possible way to achieve the highest efficiency, providing appropriate patient quality care.

1.10 Demonstrate awareness of his role in the development of community and the preservation of the environment in the light of global and regional changes.

1.11 Act in a manner that reflects the commitment to integrity, credibility and compliance to the rules of the profession, with regards to ethics and patient management.

1.12 Develop himself academically, clinically and to have the capability of self-learning and continuous education, by being up to date with the most recent researches published, attending conferences and courses.

2. intended learning outcomes of the program:

2A) Knowledge and understanding:

By the end of the Master Program, the graduate should be able to:

2. A.1. Understand the theories and fundamentals related to Orthodontics and Dentofacial Orthopedics that includes the diagnosis, prevention, interception and correction of different types of anomalies and malocclusion, as well as neuromuscular and skeletal abnormalities.

2. A.2. Associate Mutual influence between Orthodontics and its impact on the environment and the social life of their patients.

2. A.3. Recognize the ethical and legal principles of professional practice in Orthodontics, including the integrity, responsibility and tolerance for their patients

2. A.4. Discover and demonstrate knowledge of scientific developments and recent updates in the field of Orthodontics.

2. A.5. Apply principles and fundamentals of quality in diagnosis and treatment planning in daily orthodontic practice.

2. A.6. Recognize and know the fundamentals and ethics of Scientific Research.

2B) intellectual skills:

By the end of the Master Program, the graduate should be able to:

2. B.1. Analyze diagnostic findings to create an orthodontic problem list and treatment aims for each case.

2. B.2. Solve orthodontic problems in absence of some diagnostic inputs as cephalometric radiograph tracing

2. B.3. Correlate between the different knowledge in areas of orthodontics, to conduct a proper orthodontic treatment plan and mechanics

2. B.4. Use analytical methodology in conducting research study, and/ or writing a methodical scientific study on a research problem.

2. B.5 Understand the risk/benefit of any orthodontic procedure, as well as the external and internal iatrogenic factors, that may affect the quality of orthodontic treatment

2. B.6. Plan in developing the performance, in the field of Orthodontics.

2. B.7. Demonstrate the ability of talking professional decisions in various orthodontic clinical situations.

2C) practical and clinical Skills:

By the end of the Master Program, the graduate should be able to:

2. C.1. Master basic skills and new advanced techniques in Orthodontics.

2. C.2. Write and evaluate professional clinical reports as well as referral letters

2. C.3. Evaluate and develop the techniques used in the field of Orthodontics.

2. C.4. Show capability of taking full medical and dental history from patients

2. C5. Assess the patient orthodontically and diagnose all types of skeletal and dental problems.

2. C6. Demonstrate the ability of case documentation, through full orthodontic records, including extra & inta-oral photographs, impressions for orthodontic study models and different types of radiographs, with the capability of **interpretate** them.

2. C.7. Analyze diagnostic findings to develop an orthodontically prioritized problem list, as well as treatment aims for orthodontic cases

2. C.8. Present all collected diagnostic data and treatment plan in a PowerPoint presentation for instructor evaluation.

2. C.9. Carry out all types of orthodontic mechanics on different orthodontic appliances through the initial phase of treatment, follow ups and retention.

2. C.10. Coordinate and document detailed interdisciplinary treatment plans which may include care from other providers, such as restorative dentists and oral and maxillofacial surgeons or other dental specialists, to provide the most efficient treatment plan for the patient.

2. C.11. Manage medically compromised patients with different medical disorders, as well as with functional occlusal problems, temporomandibular disorders and periodontal compromised cases.

2. C.12. Practice orthodontics in full compliance with accepted standards of ethical behavior

2D) General and transferrable Skills:

By the end of the Master Program of Orthodontics, the graduate should be able to:

2. D.1. Communicate effectively and diversely in multicultural work environment in verbal and non-verbal ways

2. D.2. Use information technologies towards serving the professional practice.

2. D.3. Perform self-assessment in professional abilities, performance and progress, as well as determine the personal educational needs and effectively recognize and utilize all sources for continuing professional development and life–long learning.

2. D.4. Employ different sources to acquire information and knowledge.

2. D.5. Set up rules and performance indicators for assessment of the others.

2. D.6. Work in collaboration as a member of an interdisciplinary team and team leading in different professional contexts

2. D.7. Manage time effectively.

2. D.8. appreciate Self-learning to seek continuous education.

2. D.9. Prioritize workload and manage personal stress in the framework of proper performance and management.

2. D.10. Manage and motivate patients before and during the hole process of orthodontic treatment.

2. D. 11. Study and critically evaluate the literature and other information related to the field.

3. Program academic standards:

Academic standards of Master Degree Program of Orthodontics

- **postgraduate affairs: 3/8/2015**
- **Approved in faculty council no (40) on 10/8/2015**

4. References standards:

a. Academic reference standards ARS, master program (March 2009) issued by NAQAAE

b. external reference standards (bench mark): None

5. Program Structure and contents:

A. Duration of Program: minimum 2 years.

- 1st part : 2 semesters: 1 year
- 2nd part: 2 semesters: 1 year
- Thesis: minimum 1 year after completion of 1st part

B. Structure of the Program:

- Number of hours / number of units: total 80 credit hours
  theoretical 40 weekly hours / practical and clinical 48 weekly hours
- Compulsory 64 credit hours without Thesis / selective none / elective 4 credit hours
- Basic science courses: 26 credit hours 32.5%
- Specialization courses: 38 credit hours 47.5 %
- Elective Courses 4 credit hours 5 %
- Thesis: 12 credit hours 15 %

C) Program levels

- First part: Passage required: Compulsory: 36 credit hours / Selective: None / Elective: 4 credit hours
- Second part: Passage required: Compulsory: 28 credit hours / Selective: None / Elective: None

Program Courses:

A - compulsory:

1st part (1st. semester)

1st Part *(First Semester)*					
Course Code	Course Name	credit hours	Number of weekly hours		
			Practical	Exercises	Theoretical
601	Oral Pathology	3 C-Hrs	2 Hrs	None	2 Hrs
603	Oral Histology and Embryology	3 C-Hrs	2 Hrs	None	2 Hrs
605	General Anatomy	3 C-Hrs	2 Hrs	None	2 Hrs
611	Oral Radiology	2 C-Hrs	2 Hrs	None	1 Hr
615	Dental Materials	2 C-Hrs	2 Hrs	None	1 Hr
617	Laboratory Orthodontics	3 C-Hrs	2 Hrs	None	2 Hrs
619	Preclinical Orthodontics	2 C-Hrs	2 Hrs	None	2 Hrs
		Total			
		18 C-Hrs	**14 Hrs**	**None**	**11 Hrs**

1st part (2nd. semester)

1st Part *(Second Semester)*					
Course Code	Course Name	credit hours	Number of weekly hours		
			Practical	Exercises	Theoretical
602	Oral Pathology	3 C-Hrs	2 Hrs	None	2 Hrs
604	Oral Histology and Embryology	3 C-Hrs	2 Hrs	None	2 Hrs
606	General Anatomy	3 C-Hrs	2 Hrs	None	2 Hrs
612	Oral Radiology	2 C-Hrs	2 Hrs	None	1 Hr
616	Dental Materials	2 C-Hrs	2 Hrs	None	1 Hr
618	Laboratory Orthodontics	3 C-Hrs	2 Hrs	None	2 Hrs
620	Preclinical Orthodontics	2 C-Hrs	2 Hrs	None	2 Hrs
		Total			
		18 Hrs	**14 Hrs**	**None**	**11 Hrs**

2nd part (1st. semester)

2nd Part *(First Semester)*					
Course Code	Course Name	credit hour	Number of weekly hours		
			Practical	Exercises	Theoretical
719	Orthodontic Diagnosis	3 C-Hrs	2 Hrs	None	2 Hrs
721	Orthodontic Appliances	3 C-Hrs	2 Hrs	None	2 Hrs
723	Orthodontic Complications	3 C-Hrs	2 Hrs	None	2 Hrs
725	Clinical Orthodontics	5 C-Hrs	4 Hrs	None	3 Hrs
		Total			
		14 Hrs	**10 Hrs**	**None**	**9 Hrs**

2nd part (2nd. semester)

2nd Part *(Second Semester)*					
Course Code	Course Name	credit hour	Number of weekly hours		
			Practical	Exercises	Theoretical
720	Orthodontic Diagnosis	3 C-Hrs	2 Hrs	None	2 Hrs
722	Orthodontic Appliances	3 C-Hrs	2 Hrs	None	2 Hrs
724	Orthodontic Complications	3 C-Hrs	2 Hrs	None	2 Hrs
726	Clinical Orthodontics	5 C-Hrs	4 Hrs	None	3 Hrs
		Total			
		14 Hrs	**10 Hrs**	**None**	**9 Hrs**

B. Selective: **None**

C. elective:

Student chooses 2 Elective courses (4 credit hours) out of the following courses during first or second part.

Passage of the 4 credit hours should be done any time within the program year.

Course Code	Course Name	credit hour
623	Biochemistry	2
629	Implantology	2
632	Laser applications	2
634	Medical emergency	2

7- Program admission and requirements:

١. أن يكون المتقدم حاصلا على درجة البكالوريوس فى طب وجراحة الفم والأسنان من إحدى كليات طب الأسنان بجمهورية مصر العربية أو على درجة معادلة لها من قبل المجلس الأعلى للجامعات بتقدير جيد على الأقل فى التقدير العام وجيد فى مادة التخصص المراد الالتحاق بدراستها. ويجوز قبول لدراسة الماجستير الطلاب الحاصلين على دبلوم التخصص المراد الالتحاق به بتقدير عام جيد على الأقل وجيد جدا فى مادة التخصص.

٢. يجوز كذلك القبول فى الفروع الأكاديمية بالشروط نفسها فى البند السابق من هذه المادة على الوجه التالى :-

أ- ماجستير بثالوجيا وماجستير بيولوجيا الفم من الحاصلين على دبلوم التخصص الإكلينيكى لطب الفم وعلاج اللثة.

ب- ماجستير خواص المواد من الحاصلين على دبلوم التخصص الإكلينيكي للاستعاضة الصناعية للأسنان أو للعلاج التحفظى للأسنان أو التيجان و الجسور أو علاج الجذور.

٣. أن يكون قد مضى سنتين على الأقل من تاريخ التخرج بشرط أن يكون قد أمضى السنة الاجبارية للتدريب (الامتياز)

٤. موافقة جهة العمل للمتقدم على قيده لدرجة الماجستير وكذلك موافقتها على تفرغ الطالب طوال مدة الدراسة.

٥. موافقة مجلس القسم المختص.

٦. أن يقدم الطالب طلبا متضمنا جميع المستندات المذكورة فى بنود هذه المادة باسم السيد الدكتور عميد الكلية خلال المدة من أول يوليو حتى نهايته من العام المراد القيد به لهذه الدرجة، ولا تقبل أى إستثناءات بعد هذا التاريخ مهما كانت الأسباب، وبالنسبة للأجانب تطبق القواعد المعمول بها من قبل المجلس الاعلي للجامعة.

٧. يشترط ان يكون الطالب غير مقيد باي درجة من درجات الدراسات العليا.

8. Rules governing the completion of the program:

١. أن يتابع الطالب بصفة مرضية جميع المقررات الدراسية المنصوص عليها في اللائحة حسب كل تخصص وان يحقق نسبة حضور لاتقل عن ٧٥% في كل مقرر و الا حرم من دخول الامتحان في ذلك المقرر.

٢. أن يؤدي الطالب جميع المتطلبات الدراسية التي يحددها مجلس كل قسم من المقررات الدراسة المقرر دراستها في اللائحة و الا حرم من دخول الامتحان في ذلك المقرر.

٣. يشترط لنجاح الطالب اجتياز جميع الامتحانات المقررة المنصوص عليها في اللائحة حسب كل تخصص طبقا لنظام الساعات المعتمدة.

٤. يشترط لنجاح الطالب في اي مقرر من السنة الدراسية الاولي (الجزء الاول) ان يحصل علي درجة لا تقل عن ٦٠% من النهاية العظمي لمجموع الدرجات في المقرر، و علي الايقل ما يحصل علية في الامتحان التحريري و الشفهي و العملي عن ٦٠% من النهاية العظمي لمجموع الدرجات في المقرر كل امتحان علي حدة.

٥. يشترط لنجاح الطالب في اي مقرر من السنة الدراسية الثانية (الجزء الثاني) ان يحصل علي درجة لا تقل عن ٦٠% من النهاية العظمي لمجموع الدرجات في المقرر، و علي الايقل ما يحصل علية في الامتحان التحريري و الشفهي و العملي و الاكلينيكي عن ٦٠% من النهاية العظمي لمجموع الدرجات في المقرر (كل امتحان علي حدة).

٦. يعد الطالب راسبا اذا تغيب عن دخول اي امتحان او جزء منة بدون عذر قهري يقبلة مجلس الكلية تبعا لما هو محدد بقرارات الجامعة.

٧. يكون الطالب الراسب في احد جزئي درجة الماجستير (الاول و الثاني) فيما رسب فية من مقررات فقط.

٨. يمكن للطالب الراسب فى بعض مقررات فصل دراسى أن يدرس بعض مقررات الفصل الدراسى التالى على أن يقوم بأداء إمتحانات مواد الرسوب مع إمتحانات الفصل التالى.

9 – Students Assessment Methods:

Intended learning outcomes	Methods	م
• Knowledge and understanding • intellectual skills	Written examination	1
• Knowledge and understanding • intellectual skills • General and transferrable Skills	Oral examination	2
• Knowledge and understanding • intellectual skills • practical / clinical Skills • General and transferrable Skills	Practical / clinical examination	3
• Knowledge and understanding • intellectual skills • practical / clinical Skills • General and transferrable Skills	Thesis	4

10- Evaluation of the program:

Evaluator	**Tools**	**Sample**
Internal evaluator **(s)**	• **reports**	**1-2 Reports**
External Evaluator **(s)**	• **reports**	**1-2 Reports**
Senior student **(s)**	**Meetings and questionnaires**	**All students**
Alumni	**Meetings and questionnaires**	**Not less than 50% of students last 3 years**
Stakeholder **(s)**	**Meetings and questionnaires**	**sample**

11- Teaching and learning strategies:

a. Active learning
b. Outcome- based learning
c. Problem-based learning
d. Self learning

الملاحق :

ملحق ١ :المعايير الاكاديمية للبرنامج

ملحق ٢ :المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة.

ملحق ٣: مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة.

ملحق ٤: مصفوفة البرنامج مع المعايير الأكاديمية للبرنامج.

ملحق ٥: مصفوفة اهداف ونواتج تعلم البرنامج

ملحق ٦: مصفوفة المقررات مع نواتج تعلم البرنامج

ملحق ٧: توصيف المقررات

program Academic standard : ملحق ١

Master Degree in Orthodontics

Academic Reference Standards (ARS)
1.1 The attributes of master degree of Orthodontics: The graduates of the Master Degree of Orthodontics, should be able to:
1.1.1 Promote clinical and scholarly activity, including basic sciences and clinical research
1.1.2. Apply the basic tools, methodology and analytical procedures in the field Orthodontics.
1.1.3. Apply specialized knowledge and integrate it with relevant knowledge in Orthodontics
1.1.4. Provide awareness of different problems and advanced vision of the new techniques in Orthodontics.
1.1.5. Help in the development of a well-capable orthodontist that has a strong background in defining orthodontic problems and be to manage them.
1.1.6 Show capability in mastering an appropriate range of orthodontic clinical skills, and using appropriate technological means to serve his orthodontic practice
1.1.7 Participate in teamwork with different specialties as surgeons, periodontists, restorative dentists to carry out adjunctive treatment.
1.1.8 Demonstrate ability of decision making in different orthodontic situations.
1.1.9 Recruit all the available resources in the best way possible and maintain its efficiency.
1.1.10 Show awareness of his role in the development of society and the preservation of the environment in the light of global and regional changes.
1.1.11 Act in a manner that reflects his commitment to the integrity, credibility and compliance with professional rules.
1.1.12 Develop himself academically, professionally and to have the capability of self-learning and continuous education.
2.1 Knowledge and Understanding By the end of the Master Program, the graduate should be able to demonstrate the knowledge and understanding of:
2.1.1 Theories and fundamentals related to Orthodontics, as well as related fields.
2.1.2 The mutual influence between orthodontics and dentofacial orthopedics and its impacts on the environment.
2.1.3 Ethical and legal principles of professional practice in Orthodontics.

2.1.4 Scientific developments and recent updates in orthodontics.
2.1.5 The principles and fundamentals of quality in professional practice in the area of orthodontics.
2.1.6 Fundamentals and Ethics of Scientific Research.
b-Intellectual Skills By the end of the Master Program, the graduate should be able to:
2.2.1 Analyze and evaluate diagnostic findings and accordingly interpret the proper treatment plan, to solve problems.
2.2.2 Solve orthodontic problems in absence of some inputs.
2.2.3 Correlate between the different knowledge to solve orthodontic problems.
2.2.4 Use analytical methodology in conducting research study, and/ or writing a methodical scientific study on a research problem.
2.2.5 Assess the risks in professional orthodontic practices
2.2.6 Plan to develop the performance in the field of orthodontics.
2.2.7 Take the professional decision in various orthodontic clinical domains.
c-Professional and Practical Skills By the end of the Master Program, the graduate ***should be*** able to***:***
2.3.1. Master professional basic skills and recent advances in orthodontics.
2.3.2. Write and evaluate professional reports.
2.3.3. Evaluate and develop the techniques used in the field of specialty.
2.3.4 Demonstrate capability of patient questionnaire to take medical history
2.3.5 Assess and diagnose the patients orthodontically
2.3.6. Demonstrate the ability of full case documentation prior and after the orthodontic treatment.
2.3.7. Analyze diagnostic findings to conduct a proper orthodontic treatment plan.
2.3.8 Capable to present a full documented case
2.3.9 Recognize different types of orthodontic treatment approaches and techniques
2.3.10 Co-ordinate with different specialties for providing the most efficient treatment plan for the patient
2.3.11 Manage medically compromised patients orthodontically
2.3.12 Practice orthodontics with ethics
2.4 General and transferable skills By the end of the Master Program of Orthodontics, the graduate ***should be*** able to***:***
2.4.1 Communicate effectively and diversely in multicultural work environment in verbal and non-verbal ways.
2.4.2. Use information technologies towards serving the professional practice.
2.4.3. Perform self-assessment in professional abilities, performance and progress and determine the personal

educational needs and Recognize and effectively utilize all sources for continuing professional development and life–long learning.
2.4.4. Employ different sources to acquire information and knowledge.
2.4.5. Set up rules and performance indicators for assessment of the others.
2.4.6. Work in collaboration as a member of an interdisciplinary team and team leading in different professional contexts
2.4.7. Manage time effectively.
2.4.8. Carry out continuing and self-learning and Employ different sources to acquire information and knowledge.
2.4.9. Prioritize workload and manage personal stress in the framework of proper performance and management.
2.4.10. Manage and motivate patients to participate fully with orthodontic treatment procedures.
2.4.11. Study and critically evaluate the literature and other information pertaining to this field.

ملحق ٢:المعايير القياسية العامة للدراسات العليا الصادرة عن الهيئة.

برامج الماجستير

١- مواصفات الخريج :

خريج برنامج الماجستير في أي تخصص يجب أن يكون قادرا على:

١,١ إجادة تطبيق أساسيات ومنهجيات البحث العلمي واستخدام أدواته المختلفة.

٢,١ تطبيق المنهج التحليلي واستخدامه في مجال التخصص.

٣,١ تطبيق المعارف المتخصصة ودمجها مع المعارف ذات العلاقة في ممارسته المهنية.

٤,١ إظهار وعيا بالمشاكل الجارية والرؤى الحديثة في مجال التخصص.

٥,١ تحديد المشكلات المهنية و إيجاد حلولا لها.

٦,١ إتقان نطاق مناسب من المهارات المهنية المتخصصة، واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية.

٧,١ التواصل بفاعلية والقدرة على قيادة فرق العمل.

٨,١ اتخاذ القرار في سياقات مهنية مختلفة.

٩,١ توظيف الموارد المتاحة بما يحقق أعلي استفادة والحفاظ عليها.

١٠,١ إظهار الوعي بدوره في تنمية المجتمع والحفاظ على البيئة في ضوء المتغيرات العالمية والإقليمية.

١١,١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية والالتزام بقواعد المهنة.

١٢,١ تنمية ذاته أكاديميا ومهنيا وقادرا علي التعلم المستمر.

٢- المعايير القياسية العامة :

٢. ١ المعرفة والفهم :

بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج على فهم و دراية بكل من:

١,١,٢ النظريات والأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة.

٢,١,٢ التأثير المتبادل بين الممارسة المهنية وانعكاسها علي البيئة.

٣,١,٢ التطورات العلمية في مجال التخصص.

٤,١,٢ المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص.

٥,١,٢ مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص.

٦,١,٢ أساسيات وأخلاقيات البحث العلمي.

٢. ٢ المهارات الذهنية :

بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:

١,٢,٢ تحليل وتقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل.

٢,٢,٢ حل المشاكل المتخصصة مع عدم توافر بعض المعطيات.

٣,٢,٢ الربط بين المعارف المختلفة لحل المشاكل المهنية.

٤,٢,٢ إجراء دراسة بحثية و/أو كتابة دراسة علمية منهجية حول مشكلة بحثية.

٥,٢,٢ تقييم المخاطر في الممارسات المهنية في مجال التخصص.

٦,٢,٢ التخطيط لتطوير الأداء في مجال التخصص.

٧,٢,٢ اتخاذ القرارات المهنية في سياقات مهنية متنوعة.

٢. ٣ المهارات المهنية :

بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:

١,٣,٢ إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص.

٢,٣,٢ كتابة و تقييم التقارير المهنية.

٣,٣,٢ تقييم الطرق والأدوات القائمة في مجال التخصص.

٢. ٤ المهارات العامة والمنتقلة :

بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:

١,٤,٢ التواصل الفعال بأنواعه المختلفة.

٢,٤,٢ استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية.

٣,٤,٢ التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية.

٤,٤,٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف.

٥,٤,٢ وضع قواعد ومؤشرات تقييم أداء الآخرين.

٦,٤,٢ العمل في فريق، وقيادة فرق في سياقات مهنية مختلفة.

٧,٤,٢ إدارة الوقت بكفاءة.

٨,٤,٢ التعلم الذاتي والمستمر.

ملحق ٣: مصفوفة المعايير الأكاديمية للبرنامج مع المعايير القياسية للدراسات العليا الصادرة عن الهيئة.

National Academic Reference Standards (NARS)	Academic Reference Standards (ARS)
١- مواصفات الخريج : **خريج برنامج الماجستير في أي تخصص يجب أن يكون قادرا على:**	**1.1 The attributes of master degree of Orthodontics:** **The graduates of the Master Degree of Orthodontics, should be able to:**
١,١,١ إجادة تطبيق أساسيات ومنهجيات البحث العلمي واستخدام أدواته المختلفة.	**1.1.1** Promote clinical and scholarly activity, including basic sciences and clinical research
١,١,٢تطبيق المنهج التحليلي واستخدامه في مجال التخصص.	**1.1.2.** Apply the basic tools, methodology and analytical procedures in the field Orthodontics.
١,١,٣تطبيق المعارف المتخصصة ودمجها مع المعارف ذات العلاقة في ممارسته المهنية.	**1.1.3**. Apply specialized knowledge and integrate it with relevant knowledge in Orthodontics
١,١,٤ إظهار وعيا بالمشاكل الجارية والرؤى الحديثة في مجال التخصص.	**1.1.4**. Provide awareness of different problems and advanced vision of the new techniques in Orthodontics.
١,١,٥ تحديد المشكلات المهنية و إيجاد حلولا لها.	**1.1.5.** Help in the development of a well-capable orthodontist that has a strong background in defining orthodontic problems and be to manage them.
١,١,٦ إتقان نطاق مناسب من المهارات المهنية المتخصصة، واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية.	**1.1.6** Show capability in mastering an appropriate range of orthodontic clinical skills, and using appropriate technological means to serve his orthodontic practice
١,١,٧ التواصل بفاعلية والقدرة على قيادة فرق العمل.	**1.1.7** Participate in teamwork with different specialties as surgeons, periodontists, and restorative dentists to carry out

adjunctive treatment.	
1.1.8 Demonstrate the ability of decision making in different orthodontic situations.	١,١,٨ اتخاذ القرار في سياقات مهنية مختلفة.
1.1.9 Recruit all the available resources in the best way possible and maintain its efficiency.	١,١,٩ توظيف الموارد المتاحة بما يحقق أعلي استفادة والحفاظ عليها.
1.1.10 Show awareness of his role in the development of society and the preservation of the environment in the light of global and regional changes.	1.1.10إظهار الوعي بدوره في تنمية المجتمع والحفاظ على البيئة في ضوء المتغيرات العالمية والإقليمية.
1.1.11 Act in a manner that reflects his commitment to the integrity, credibility and compliance with professional rules.	١,١,١١التصرف بما يعكس الالتزام بالنزاهة والمصداقية والالتزام بقواعد المهنة.
1.1.12 Develop himself academically, professionally and to have the capability of self-learning and continuous education.	١,١,١٢ تنمية ذاته أكاديميا ومهنيا وقادرا علي التعلم المستمر.
2.1 Knowledge and Understanding By the end of the Master Program, the graduate should be able to demonstrate the knowledge and understanding of:	**2.1 المعرفة والفهم :** **بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج على فهم و دراية بكل من:**
2.1.1 Theories and fundamentals related to	**2.1.1** النظريات والأساسيات المتعلقة بمجال التعلم وكذا في

Orthodontics, as well as related fields.	المجالات ذات العلاقة.
2.1.2 The mutual influence between orthodontics and dentofacial orthopedics and its impacts on the environment.	**2.1.2** التأثير المتبادل بين الممارسة المهنية وانعكاسها علي البيئة
2.1.3 Ethical and legal principles of professional practice in Orthodontics.	**2.1.3** المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص.
2.1.4 Scientific developments and recent updates in orthodontics.	**2.1.4** المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص.
2.1.5 The principles and fundamentals of quality in professional practice in the area of orthodontics.	**2.1.5** مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص
2.1.6 Fundamentals and Ethics of Scientific Research.	**2.1.6** أساسيات وأخلاقيات البحث العلمي

b-Intellectual Skills By the end of the Master Program, the graduate should be able to:	**٢. ٢ المهارات الذهنية :** **بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:**
2.2.1 Analyze and evaluate diagnostic findings and accordingly interpret the proper treatment plan, to solve problems.	**2.2.1** تحليل وتقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل
2.2.2 Solve orthodontic problems in absence of some inputs.	**2.2.2** حل المشاكل المتخصصة مع عدم توافر بعض المعطيات
2.2.3 Correlate between the different knowledge to solve orthodontic problems.	**2.2.3** الربط بين المعارف المختلفة لحل المشاكل المهنية.
2.2.4 Use analytical methodology in conducting research study, and/ or writing a methodical scientific study on a research problem.	**2.2.4** إجراء دراسة بحثية و/أو كتابة دراسة علمية منهجية حول مشكلة بحثية.
2.2.5 Assess the risks in professional orthodontic practices	**2.2.5** تقييم المخاطر في الممارسات المهنية في مجال التخصص
2.2.6 Plan to develop the performance in the field of orthodontics.	**2.2.6** التخطيط لتطوير الأداء في مجال التخصص
2.2.7 Take the professional decision in various orthodontic clinical domains	**2.2.7** اتخاذ القرارات المهنية في سياقات مهنية متنوعة

2.3 المهارات المهنية : بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:	c- Professional and Practical Skills By the end of the Master Program, the graduate ***should be*** able to*:*
2.3.1. إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص	2.3.1. Master professional basic skills and recent advances in orthodontics.
2.3.2.كتابة و تقييم التقارير المهنية.	2.3.2. Write and evaluate professional reports.
2.3.3. تقييم الطرق والأدوات القائمة في مجال التخصص	2.3.3. Evaluate and develop the techniques used in the field of specialty.
	2.3.4 Demonstrate capability of patient questionnaire to take medical history
	2.3.5 Assess and diagnose the patients orthodontically
	2.3.6. Demonstrate the ability of full case documentation prior and after the orthodontic treatment.
	2.3.7. Analyze diagnostic findings to conduct a proper orthodontic treatment plan.
	2.3.8 Capable to present a full documented case
	2.3.9 Recognize different types of orthodontic treatment approaches and techniques
	2.3.10 Co-ordinate with different specialties for providing the most efficient treatment plan for the patient
	2.3.11 Manage medically compromised patients

	orthodontically
	2.3.12 Practice orthodontics with ethics
2.4 المهارات العامة والمنتقلة : **بانتهاء دراسة برنامج الماجستير يجب أن يكون الخريج قادرا على:**	**2.4 General and transferable skills** By the end of the Master Program of orthodontics and dentofacial orthopedics, the graduate ***should be*** able to***:***
2.4.1التواصل الفعال بأنواعه المختلفة	2.4.1 Communicate effectively and diversely in multicultural work environment in verbal and non-verbal ways.
2.4.2استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية	2.4.2. Use information technologies towards serving the professional practice.
2.4.3 التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية	2.4.3. Perform self-assessment in professional abilities, performance and progress and determine the personal educational needs and Recognize and effectively utilize all sources for continuing professional development and life–long learning.
2.4.4 استخدام المصادر المختلفة للحصول على المعلومات والمعارف.	2.4.4. Employ different sources to acquire information and knowledge.
2.4.5 وضع قواعد ومؤشرات تقييم أداء الآخرين .	2.4.5. Set up rules and performance indicators for assessment of the others.
2.4.6 العمل في فريق، وقيادة فرق في سياقات مهنية مختلفة	2.4.6. Work in collaboration as a member of an interdisciplinary team and team leading in different professional contexts

2.4.7 إدارة الوقت بكفاءة.	**2.4.7.** Manage time effectively.
2.4.8التعلم الذاتي والمستمر	**2.4.8.** Carry out continuing and self-learning and Employ different sources to acquire information and knowledge.
	2.4.9. Prioritize workload and manage personal stress in the framework of proper performance and management.
	2.4.10. Manage and motivate patients to participate fully with orthodontic treatment procedures.
	2.4.11. Study and critically evaluate the literature and other information pertaining to this field.

ملحق ٤: مصفوفة البرنامج مع المعايير الأكاديمية للبرنامج.

Over all Aims of the Program أهداف البرنامج	مواصفات الخريج1.1 البرنامج ARS
1.1 Apply Proficiency in the basic medical sciences and methodologies of scientific research and the use of its various tools	**1.1.1 Promote clinical and scholarly activity, including basic sciences and clinical research**
1.2 Apply of the analytical clinical methods and procedures and its use in Orthodontics.	**1.1.2. Apply the basic tools, methodology and analytical procedures in the field Orthodontics.**
1.3 Demonstrate specialized diagnostic, treatment interventions & biomechanical knowledge and integrate it with relevant anatomic, pathological & radiographical knowledge in his professional practice	**1.1.3. Apply specialized knowledge and integrate it with relevant knowledge in Orthodontics**
1.4 Demonstrate awareness of different craniofacial and orthodontic problems and advanced vision of the new techniques in Orthodontics.	**1.1.4. Provide awareness of different problems and advanced vision of the new techniques in Orthodontics.**
1.5 Be a well-capable orthodontist that has a strong background in, diagnosing all different types of skeletal and dental orthodontic problems and their treatment methodologies.	**1.1.5. Help in the development of a well-capable orthodontist that has a strong background in defining orthodontic problems and be to manage them.**
1.6 Show capability in mastering appropriate range of orthodontic professional skills, and using the correct treatment approach and most recent techniques in management of different types of skeletal and dental orthodontic problems, as well as using the most recent technological means in diagnosing and treating the orthodontic cases.	**1.1.6 Show capability in mastering an appropriate range of orthodontic clinical skills, and using appropriate technological means to serve his orthodontic practice**
1.7 Lead and communicate effectively in teamwork of other different dental specialties and auxiliaries, to provide the highest quality of treatment for the patients.	**1.1.7 Participate in teamwork with different specialties as surgeons, periodontists, restorative dentists to carry out adjunctive treatment.**

1.8 Demonstrate capability of decision making in different professional contexts with regard to Orthodontic treatment planning and mechanics.	**1.1.8 Demonstrate ability of decision making in different orthodontic situations.**
1.9 Utilize and preserve all the available resources in the best possible way to achieve the highest efficiency, providing appropriate patient quality care.	**1.1.9 Recruit all the available resources in the best way possible and maintain its efficiency.**
1.10 Demonstrate awareness of his role in the development of community and the preservation of the environment in the light of global and regional changes.	**1.1.10 Show awareness of his role in the development of society and the preservation of the environment in the light of global and regional changes.**
1.11 Act in a manner that reflects the commitment to integrity, credibility and compliance to the rules of the profession, with regards to ethics and patient management.	**1.1.11 Act in a manner that reflects his commitment to the integrity, credibility and compliance with professional rules.**
1.12 Develop himself academically, clinically and to have the capability of self-learning and continuous education, by being up to date with the most recent researches published, attending conferences and courses.	**1.1.12 Develop himself academically, professionally and to have the capability of self-learning and continuous education.**

نواتج تعلم البرنامج المعرفه و الفهم 2.a. Knowledge & understanding												المعايير الأكاديمية البرنامج ARS 2.1.Knowledge & understanding
						2.a.6	2.a.5	2.a.4	2.a.3	2.a.2.	2.a.1.	
											√	***By the end of Master program, the candidate should recognize and understand the followings:*** **2.1.1. Theories and fundamentals related to Orthodontics, as well as related fields**
										√		**2.1.2. The mutual influence between orthodontics and dentofacial orthopedics and its impacts on the environment**
									√			**2.1.3. Ethical and legal principles of professional practice in Orthodontics.**
								√				**2.1.4. Scientific developments and recent updates in orthodontics.**
							√					**2.1.5. The principles and fundamentals of quality in professional practice in the area of orthodontics.**
						√						**2.1.6. Fundamentals and Ethics of Scientific Research.**

نواتج تعلم البرنامج المهارات الذهنية 2.b. Intellectual skills											(ARS) (المعايير الأكاديمية للبرنامج المهارات الذهنية 2.2. Intellectual skills
				2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2.	2.b.1.	
										√	2.2.1. Analyze and evaluate diagnostic findings and accordingly interpret the proper treatment plan, to solve problems.
									√		2.2.2. Solve orthodontic problems in absence of some inputs.
								√			2.2.3. Correlate between the different knowledge to solve orthodontic problems.
							√				2.2.4. Use analytical methodology in conducting research study, and/ or writing a methodical scientific study on a research problem.
						√					2.2.5. Assess the risks in professional orthodontic practices
					√						2.2.6. Plan to develop the performance in the field of orthodontics.
				√							2.2.7. Take the professional decision in various orthodontic clinical domains.

نواتج تعلم البرنامج المهارات المهنية 2.c. Practical/Professional skills											المعايير الأكاديمية للبرنامج(ARS) المهارات المهنية 2.3. Practical/Professional skills
2.c.12	2.c.11	2.c.10	2.c.9	2.c.8	2.c.7	2.c.6	2.c.5	2.c.4	2.c.3	2.c.2.	2.c.1.	
											√	***By the end of Master program, candidate should accept the followings skills:*** **2.3.1. Master professional basic skills and recent advances in orthodontics.**
										√		**2.3.2. Write and evaluate professional reports.**
									√			**2.3.3. Evaluate and develop the techniques used in the field of specialty.**
								√				**2.3.4. Demonstrate capability of patient questionnaire to take medical history**
							√					**2.3.5 Assess and diagnose the patients orthodontically**
						√						**2.3.6. Demonstrate the ability of full case documentation prior and after the orthodontic treatment.**
					√							**2.3.7. Analyze diagnostic findings to conduct a proper orthodontic treatment plan.**
				√								**2.3.8. Capable to present a full documented case**
			√									**2.3.9. Recognize different types of orthodontic treatment approaches and techniques**
		√										**2.3.10. Co-ordinate with different specialties for providing the most efficient treatment plan for the patient**
	√											**2.3.11. Manage medically compromised patients orthodontically**
√												**2.3.12 Practice orthodontics with ethics**

نواتج تعلم البرنامج المهارات العامة والمنتقلة 2.d. General and transferable skills											المعايير الأكاديمية للبرنامج المهارات العامة والمنتقلة 2.4. General and transferable skills
2.d.11	2.d.10	2.d.9	2.d.8	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2.	2.d.1.	
										√	***By the end of Master program, candidate should accept the following skills:*** **2.4.1. Communicate effectively and diversely in multicultural work environment in verbal and non-verbal ways.**
									√		**2.4.2. Use information technologies towards serving the professional practice.**
								√			**2.4.3. Perform self-assessment in professional abilities, performance and progress and determine the personal educational needs and Recognize and effectively utilize all sources for continuing professional development and life–long learning.**
							√				**2.4.4. Employ different sources to acquire information and knowledge.**
						√					**2.4.5. Set up rules and performance indicators for assessment of the others.**
					√						**2.4.6. Work in collaboration as a member of an interdisciplinary team and team leading in different professional contexts**
				√							**2.4.7. Manage time effectively.**
			√								**2.4.8.. Carry out continuing and self-learning and Employ different sources to acquire information and knowledge.**
		√									**2.4.9. Prioritize workload and manage personal stress in the framework of proper performance and management.**
	√										**2.4.10. Manage and motivate patients to participate fully with orthodontic treatment procedures.**
√											**2.4.11. Study and critically evaluate the literature and other information pertaining to this field.**

ملحق ٥: مصفوفة اهداف ونواتج تعلم البرنامج

Program aims	نواتج تعلم البرنامج Knowledge & understanding											
	المعرفه و الفهم											
	2.a.1.	2.a.2.	2.a.3	2.a.4	2.a.5	2.a.6						
1.1				✓		✓						
1.2			✓		✓							
1.3	✓		✓									
1.4				✓								
1.5.	✓											
1.6			✓									
1.7		✓										
1.8					✓							
1.9												
1.10		✓										
1.11			✓									
1.12				✓								

نواتج تعلم البرنامج											Program aims
Intellectual skills											
				2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2.	2.b.1.	
							✓				1.1
				✓	✓	✓				✓	1.2
					✓	✓		✓	✓		1.3
					✓						1.4
							✓		✓	✓	1.5.
				✓			✓		✓	✓	1.6
											1.7
				✓							1.8
					✓					✓	1.9
											1.10
											1.11
											1.12

Program aims	نواتج تعلم البرنامج											
	Practical/Professional skills											
	2.c.1.	2.c.2.	2.c.3	2.c.4	2.c.5	2.c.6	2.c.7	2.c.8	2.c.9	2.c.10	2.c.11	2.c.12
1.1												
1.2	✓	✓	✓		✓		✓					
1.3				✓		✓						
1.4			✓						✓	✓	✓	
1.5.	✓								✓			
1.6	✓					✓			✓			
1.7								✓		✓		
1.8							✓				✓	
1.9											✓	
1.10												
1.11												✓
1.12												

Program aims	نواتج تعلم البرنامج											
	General and transferable skill											
	2.d.1.	2.d.2.	2.d.3	2.d.4	2.d.5	2.d.6	2.d.7	2.d.8	2.d.9	2.d.10	2.d.11	
1.1		✓		✓								

	✓											1.2
												1.3
								✓		✓		1.4
												1.5
		✓	✓		✓							1.6
		✓				✓	✓				✓	1.7
					✓							1.8
								✓		✓	✓	1.9
												1.10
												1.11
				✓					✓			1.12

ملحق ٦: مصفوفة المقررات مع البرنامج Program-Courses ILOs Matrix

2.a. Knowledge & Understanding المعرفه و الفهم										ILOs / All Courses & codes / Courses	
				2.a.6	2.a.5	2.a.4	2.a.3	2.a.2	2.a.1		
										601	Oral pathology
										603	Oral histology and embryology
										605	General anatomy
										611	Oral radiology
										615	Dental materials
					√	√			√	617	Laboratory orthodontics1
					√			√	√	619	Preclinical orthodontics1
										602	Oral pathology
										604	Oral histology and embryology
										606	General anatomy
										612	Oral radiology
										616	Dental materials
						√			√	618	Laboratory orthodontics 2
					√	√		√	√	620	Preclinical orthodontics 2
					√			√	√	719	Orthodontic diagnosis 1
						√		√	√	721	Orthodontic appliances 1
					√			√	√	723	Orthodontic complications 1
								√	√	725	Clinical orthodontics 1
					√			√	√	720	Orthodontic diagnosis 2
						√	√	√	√	722	Orthodontic appliances 2
						√		√	√	724	Orthodontic complications 2
				√	√		√	√	√	726	Clinical orthodontics 2

2.b Intellectual Skills مهارات ذهنية										ILOs All Courses & codes Courses	
			2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2	2.b.1		
										601	Oral pathology
										603	Oral histology and embryology
										605	General anatomy
										611	Oral radiology
										615	Dental materials
			√		√		√	√		617	Laboratory orthodontics1
							√	√	√	619	Preclinical orthodontics1
										602	Oral pathology
										604	Oral histology and embryology
										606	General anatomy
										612	Oral radiology
										616	Dental materials
			√	√			√	√		618	Laboratory orthodontics 2
					√		√	√	√	620	Preclinical orthodontics 2
			√	√			√		√	719	Orthodontic diagnosis 1
			√		√		√		√	721	Orthodontic appliances 1
			√		√		√	√	√	723	Orthodontic complications 1
							√	√	√	725	Clinical orthodontics 1
			√		√		√	√	√	720	Orthodontic diagnosis 2
			√		√		√	√	√	722	Orthodontic appliances 2
			√		√		√	√	√	724	Orthodontic complications 2
			√		√		√	√	√	726	Clinical orthodontics 2

2.c. Practical & Clinical Skills مهارات عملية و مهنية												ILOs / All Courses & codes / Courses	
2.c.12	2.c11	2.c.10	2.c.9	2.c.8	2.c.7	2.c.6	2.c.5	2.c.4	2.c.3	2.c.2	2.c.1		
												601	Oral pathology
												603	Oral histology and embryology
												605	General anatomy
												611	Oral radiology
												615	Dental materials
			√	√		√		√	√		√	617	Laboratory orthodontics1
	√			√	√		√	√	√	√		619	Preclinical orthodontics1
												602	Oral pathology
												604	Oral histology and embryology
												606	General anatomy
												612	Oral radiology
												616	Dental materials
			√						√		√	618	Laboratory orthodontics 2
							√				√	620	Preclinical orthodontics 2
					√		√					719	Orthodontic diagnosis 1
			√				√		√		√	721	Orthodontic appliances 1
	√		√		√		√				√	723	Orthodontic complications 1
						√	√	√			√	725	Clinical orthodontics 1
√		√	√		√		√	√		√	√	720	Orthodontic diagnosis 2
	√	√	√		√				√		√	722	Orthodontic appliances 2
	√		√					√			√	724	Orthodontic complications 2
√	√	√	√	√	√	√	√					726	Clinical orthodontics 2

2.d. General and transferable Skills مهارات عامة											ILOs / All Courses & codes	
2.c.11	2.d.10	2.d.9	2.d.8	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2	2.d.1		
											601	Oral pathology
											603	Oral histology and embryology
											605	General anatomy
											611	Oral radiology
											615	Dental materials
							√	√	√	√	617	Laboratory orthodontics1
				√	√		√		√	√	619	Preclinical orthodontics1
											602	Oral pathology
											604	Oral histology and embryology
											606	General anatomy
											612	Oral radiology
											616	Dental materials
				√						√	618	Laboratory orthodontics 2
		√	√	√	√	√	√	√	√	√	620	Preclinical orthodontics 2
√							√				719	Orthodontic diagnosis 1
		√	√	√	√	√	√	√	√	√	721	Orthodontic appliances 1
										√	723	Orthodontic complications 1
				√						√	725	Clinical orthodontics 1
									√	√	720	Orthodontic diagnosis 2
	√	√			√					√	722	Orthodontic appliances 2
										√	724	Orthodontic complications 2
										√	726	Clinical orthodontics 2

ملحق ٧: توصيف المقررات

First part courses

University: Future University in Egypt
Faculty: Faculty of Oral and Dental Medicine
Department*: oral biology and oral pathology department*

Course Specification

1- Basic Information		
Course Title: oral pathology	**Course Code:601**	**Level: 1st part master`s degree**
Master degree in: All specialties	Credit Hours: 3Theoretical:2 Practical:2	

2- Aim of the course:	1. To explain all structural, morphological and numerical alterations affecting hard dental tissues. 2. To understand the biological process of dental caries and the role of bacteria, CHO and saliva. 3. To classify different types of pulp inflammation.
3- Intended Learning Outcomes of Course (ILO): **By the end of the course, post graduate student should be able to:**	
a) Knowledge and understanding :	a.1 Discuss basic oral pathological terminology that may be encountered by all specialists in the dental practice. a.2 Classify developmental disturbances affecting the shape, structure and number of teeth. a.3 Explain the biological process of dental caries and the role of bacteria, CHO and saliva. a.4 Categorize types of pulp diseases. a.5 Identify the clinical signs & symptoms of pulp inflammation
b) Intellectual Skills:	b1- Differentiate between the developmental disturbances affecting shape, structure and number of teeth. b2- Connect between factors affecting dental caries (bacteria, CHO and saliva) and caries progression. b3- Distinguish between different types of pulpitis according to the clinical signs and symptoms and classify them into focal reversible pulpitis, acute and chronic pulpitis.

c) Professional and Practical Skills:	c1- Rank the structural and morphological defects affecting teeth. c2- Evaluate dental caries and its sequalae c3- Prioritize types of pulpitis based on clinical signs and symptoms and plan the treatment of each.
d) General and transferable skills	d1- Demonstrate appropriate professional attitudes and behavior in dealing with staff members & helping personnel . d2- Communicate effectively both verbally and in writing with other health care professionals to maximize patient benefits and minimize the risk of errors. d3- Apply the information technology as a means of communication for data collection and analysis and for life – long learning . d4- Identify the socioeconomic , cultural , geographical & occupational factors that may influence etiology of oral pathological conditions and the impact of disease on the community

4- Course Contents:	• Developmental disturbances affecting the number and size of teeth. • Developmental disturbances affecting the shape, structure of teeth and eruption disorders. • Dental caries - Etiology, role of bacteria, CHO and saliva. - Pathology of dental caries. • Pulp diseases:- - Etiology and classification. - Focal reversible pulpitis - Acute and chronic pulpitis.
5- Teaching and Learning Methods	• Lectures with discussions (interactive lectures), Data show presentation, brain storming, • practical sessions: Microscopic slides: • Demonstration using computer projection • Discussion and practice of the skill of identification of microscopic slides.

6- Teaching and Learning Methods for special needs students	Individual (one on one classes with one of the TA`s or lecturers during hours agreed upon by the student and the staff members)
7- Student Assessment	
a) Assessment Methods	• written examination to assess knowledge and understanding and assessment of general intellectual skills • Multiple choice questions to assess knowledge and understanding and assessment of general intellectual skills • Oral examination to assess knowledge and understanding (and assessment of practical skills & assessment of general intellectual skills) • Practical examination to assess knowledge and understanding and assessment of practical skills and assessment of general intellectual skills
b) Assessment Schedule	Midterm written exam Final written exam (at the end of the semester) Final practical exam (at the end of the semester) Final oral exam(at the end of the semester)
c) Weighting of Assessment	Midterm written exam (30 marks of 150) Final written exam (60 marks of 150) Final practical exam (30 marks of 150) Final oral exam (30 marks of 150)

8- list of References	
a) Course Notes	The lecture notes are available (based on the latest edition of `oral and maxillofacial pathology / Neville)
b) Essential Books (Text Books)	Brad Neville, Doglas d. dam, Carl allen, et al 2015, Oral and Maxillofacial pathology 4th ed., Sanders.
c) Recommended Books	Colored Atlas of oral pathology
d) Scientific periodicals, bulletins, etc…..	

Course Coordinator: Dr. Adham Hussein Fahmy

Head of Department: Prof. Rehab Abdulmoneim Date: / 3 /2016

University: Future University in Egypt.
Faculty: Faculty of Oral and Dental Medicine
Department: oral biology and oral pathology department

Course Specification

1- Basic Information		
Course Title: Oral histology 1	**Course Code: 603**	**Level:1st part – 1st semester**
Master degree in: **Orthodontics** **Fixed prosthetic dentistry** **Operative dentistry Prosthetic dentistry** **Oral and maxillofacial surgery**	Credit Hours: 3 Theoretical:2 Practical:2	
2- Aim of the course:	• To keep pace with recent advances and to provide an expanded knowledge about histology, embryology and physiology of tooth, enamel and dentine. • To serve as a basis for understanding the clinical courses such as oral pathology, oral surgery and oral medicine	
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**		
a) Knowledge and understanding:	▪ Identify embryogenesis & histology of dento-alveloar complex. ▪ Describe the structure and the function of some different hard dental and para-dental tissues. ▪ Recall the life cycle of the tooth starting from development to eruption and subsequent shedding. ▪ Explain the clinical significance associated with certain dental hard and oral structures. ▪ Describe the histological age changes of some dental and para-dental oral tissues.	
b) Intellectual Skills:	1. Predict the different stages of tooth development. 2. Differentiate between the different oral and dental tissues. 3. Distinguish any age changes or abnormalities that might affect some normal dental and oral tissues.	

c) Professional and Practical Skills:	1. Interpret the different dental & para-dental tissues. 2. Draw the histological structure of some hard dental tissues and para- dental soft tissues.
d) General and transferable skills	1. Communicate effectively with colleagues and interact in teamwork. 2. Demonstrate appropriate professional attitude and behavior in different situations. 3. Manage time effectively.

4- Course Contents:	• Tooth development • Enamel • Dentin • Periodontal ligament • Bone Tissue and Alveolar process • Salivary Glands and Saliva • Oral Mucosa Membrane
5- Teaching and Learning Methods	1- Interactive lectures: including power point data show, videos and brain storming. 2- Practical and small group sessions: Each practical session is preceded by slide demonstration, description and drawing of oral tissues. 3- Class discussions. 4- Drawing in the practical books under supervision of the responsible staff members.
6- Teaching and Learning Methods for special needs students	Direct observation Individual teaching

7- Student Assessment	
a) Assessment Methods	1- Written examination to assess knowledge and understanding and intellectual skills. 2- Oral examination to assess knowledge and understanding and intellectual skills and attitude. 3- Practical examination to assess practical skills & intellectual skills & general skills. 4- Practical book to assess practical skills. 5- Research assignments. 6- Presentations and seminars .
b) Assessment Schedule	Final term
c) Weighting of Assessment	Final term Examination 90 Oral Examination 30 Practical Examination 30 Total 150

7- List of References	
a) Course Notes	*Department handouts
b) Essential Books (Text Books)	Mary Bath-Balogh, Margaret J. Fehrenbach, Dental Embryology Histology and anatomy. Ten Cate's Oral Histology Development, Structure and Function.
c) Recommended Books	----------
d) Scientific periodicals, bulletins, etc…..	Websites related to the study subject: Science direct- Pub Med

Course Coordinator: Rehab Abdul Moneim
Head of Department: Rehab Abdul Moneim
Date: / 3 /2016

University: Future University in Egypt.
Faculty: Faculty of Oral and Dental Medicine
Department: general supplementary sciences

Course Specification

1- Basic Information		
Course Title: Anatomy of head	***Course Code: 605***	***Level: Part I, First semester***
Master degree in: All specialties except public health	***Credit Hours: Theoretical: 2 Practical: 1***	
2- Aim of the course:	• To apply anatomical facts while examining the living subject to reach the proper diagnosis. • To identify the different surface markings of head with determining the position of muscles and their actions and the course of nerves and vessels. • To interpret the normal anatomical structures of head on radiographs of different regions of head. • To get familiar with normal patterns of paranasal sinuses of the widely used radiographs and CT of sinuses. • To provide appropriate ethical and professional education necessary for dealing with cadavers. • To correlate anatomical facts with its clinical application.	
3- Intended Learning Outcomes of Course (ILO) : By the end of the course, post graduate student should be able to:		
a. Knowledge and understanding :	1- Discuss the basic principles of the structure of different muscles, nerves, vessels, and glands of head. 2- Describe the surface landmarks of the underlying bony features of skull and mandible 3- Point out the basic features of muscles, nerves, vessels and glands of the head. 4- Outline major clinical applications in the core syllabus of anatomical facts.	

b. Intellectual Skills:	a. Correlate anatomy of different parts of head with the surface markings in determining the position or course of internal structures of the head. b. Discuss the clinical significance of muscle actions and results of injury of nerves and vessels of the head.
c. Professional and Practical Skills:	1- Apply the learned anatomical facts while examining living subject to reach the proper diagnosis. 2- Identify the different muscles, glands, major vessels and nerves in human cadavers. 3- Interpret radiograph and C.T images.
d. General and transferable skills	1- Maintain honesty and integrity in all interactions with teachers, colleagues, patients and others with whom dentists/oral surgeons must interact with in their professional lives. 2- Appreciate their role as well as the necessity of seeking the collaboration of other workers on as needed basis. 3- Take responsibility towards all work rules and regulations. 4- Maintain emotional stability in all unusual stressful situations.

4- Course Contents:	• Skull: General and particular features: - Bones forming the skull (name, position and parts of each)- Major foramina and fissures with structures passing, clinical points as commonly fractured areas: (3 hours) • Mandible: Parts, features, muscles and ligaments attached to it, nerves, vessels and glands related. Foramina in the mandible with passing structures. Common sites of fracture.: (1 hour). • Scalp: definition, layers, nerve, blood supply and lymph drainage as well as significant clinical points. (1 hour) • Face: muscles of facial expression, motor and sensory nerve supply of face, blood supply and lymph drainage. Description of dangerous area of face. (2 hours) • Facial nerve: Course, branches and results of extracranial injury. (1 hour) • Parotid gland: site, extension, parts, capsule, relations, blood supply, nerve supply effect of its inflammation on embedded structures. (1 hour) • Temporal, inratempral and pterygoplatine fossae: Boundaries and contents. Muscles of mastication, mandibular nerve, maxillary nerve, maxillary artery, pterygoid venous plexus and sphenopalatine ganglion. (3 hours) • Temporomandibular joint: Type, variety, articular bones, capsule, ligaments, intra-capsular disc, analysis of the joint movements. Dislocation: causes, site of dislocated head of mandible and how to fix it. (1 hour) • Cranial cavity: Dural folds, dural venous sinuses, pituitary gland and intracranial course of internal carotid artery. Effects of enlargement of pituitary gland. (2 hours) • Nasal cavity: Boundaries, parts, nasal septum, features of lateral wall and related orifices, blood and nerve supply. (2 hours) • Paranasal sinuses: site, number, boundaries and effects of its inflammation). Relation between ***maxillary*** sinusitis and abcesses related to roots of premolar and molar teeth of upper jaw. (1 hour) • Oral cavity: parts, Boundaries***, contents, nerve and blood supply. (1 hour)*** • ***Tongue: site, shape, parts, muscles, nerve supply and blood supply. Effect of injury of its motor nerve***

5- Teaching and Learning Methods	a. Didactic Lectures: for acquisition of course knowledge, one two-hour lecture per week. b. Practical classes: including practical demonstration on dissected specimen and radiological films in the dissecting room, one two-hour session per week. c. Tutorial classes: 2 hours weekly before dissecting a major region and a brief discussion by the end of each practical lesson. d. Self-Assessment: As appropriate, self-assessment questions in the form of short essay and/or MCQs.
6- Teaching and Learning Methods for special needs students	***----***
7- Student Assessment	
a) Assessment Methods	a. Written examination: (2) hours Assessment of Knowledge and understanding in the form of assay, MCQ and fill in the blanks questions. b. Oral examination: (10-15) minutes Assessment of understanding of pre-identified knowledge. c. Practical examinations: Three minutes per station for a total of 10 stations, testing Identification Knowledge of different anatomical structures on bones and human cadaver. d. Logbook Assessment of practical activities.
b) Assessment Schedule	***Assessment 1: MCQ Quiz exam*** ***Assessment 2: Mid Term Exam (Essay, fill in the blanks, and MCQ)*** ***Assessment 3: MCQ Quiz exam*** ***Assessment 4: Practical exam*** ***Assessment 5: Oral exam*** ***Assessment 6: Final written exam***
c) Weighting of Assessment	***Assessment 1: 2.0 %*** ***Assessment 2: 6.0 %*** ***Assessment 3: 2.0 %*** ***Assessment 4: 10.0 %*** ***Assessment 5: 20.0 %*** ***Assessment 6: 60.0 %***

8- List of References	
a) Course Notes	*Available in hard copy*
b) Essential Books (Text Books)	*Netter's Head and Neck Anatomy for Dentistry.*
c) Recommended Books	*1-Gray's Anatomy for student* *2-Cunningham's Text Book of Anatomy*
d) Scientific periodicals, bulletins, etc…..	

Course Coordinator: Dr. Sherif Fahmy Arsanyos
Head of Department: Dr. Nagwa Roshdy
Date: /3 /2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Oral medicine, periodontology, diagnosis and radiology*

Course Specification

1- Basic Information		
Course Title: oral radiology	**Course Code:** ٦١١	**Level: 1st year master degree**
Master degree in:	Credit Hours: 3/ Theoretical: 2/Practical: 2	
2- Aim of the course:	1. To provide the students with information related to **radiological sciences** including radiation physics, image production, and possible errors 2. To enable the students to understand and use the **dental radiography equipment** such as machine, different types of image receptors and processing methods 3. To train students to **clinical imaging sciences** including conventional intra oral, digital radiography, head and neck imaging, panoramic imaging	

3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**	
a. Knowledge and understanding :	1- explain radiation physics, including X-rays production, different components of X-ray machine and the various properties of X-rays 2- Discuss how images are produced and identify different image characteristics as density, contrast, sharpness and resolution. Illustrate all factors affecting these characteristics. 3- Identify types of radiographic films by size, number and speed (intra-oral and extra-oral). Explain the underlying principles of the use of screens and discuss its different types and structure. 4- Explain the principles of all the intra oral radiographic techniques 5- Describe how images are produced by processing and describe different processing techniques and chemicals. 6- Identify the digital radiography systems and their advantages and uses. 7- Explain the principles of extra-oral radiographic techniques and understand their indications. 8- Identify different radiographic pitfalls, their causes and method of overcome.
b. Intellectual Skills:	1- Make decisions regarding proper radiographic prescription. 2- Formulate complete radiographic report for intraoral CMS, panoramic and extra oral radiographs.
c. Professional and Practical Skills:	1- Apply their knowledge and skills in radiographic techniques and processing to acquire excellent diagnostic quality radiographs 2- Complete full mouth periapical, bitewing, and occlusal survey images (CMS) for adults and children.

d. General and transferable skills	1- Demonstrate appropriate professional attitudes and behavior in different situations toward patients, colleagues and supervisors. 2- Provide empathic care for all patients without discrimination. 3- Assess Regularly one's knowledge and skills, and seek additional information to correct deficiencies and enhance performance. 4- Implement and monitor infection control and environmental safety programs according to current standard
4- Course Contents:	• X ray machine and production of x ray • Dental film • Digital radiography • IO techniques periapical, bitewing and occlusal EO views • Panoramic radiography (principle, technique) • Processing techniques • Common technique and processing errors • Processing • IO landmarks(maxilla) • IO landmarks(mandible) • Object localization and exercises • Infection control • EO landmarks • Panoramic anatomy • Panoramic errors
5- Teaching and Learning Methods	• Lectures by PPS presentations • Clinical training: • Demonstrations and videos • Work sheets and surveys • Report back sessions • rotations in radiology department • literature review seminars • Group work, team work, and self-presentation
6- Teaching and Learning Methods for special needs students	-----

7- Student Assessment	
d) Assessment Methods	• formative quizzes • clinical requirements, and reports • Final Written exam • Final Oral exam • Final clinical exam
e) Assessment Schedule	• First midterm exam(week5) • Second midterm exam(week10) • Practical exam(week 12) • Oral exam (end of semester) • Final written exam(end of semester)
f) Weighting of Assessment	• Midterm written exam (20%) • Practical exam (20%) • Oral exam (20%) • Final written exam (40%)
8- List of References	
e) Course Notes	Course notes available PPS available for the students from the department
f) Essential Books (Text Books)	Stuart C. White, DDS, PhD and Michael J. Pharoah, DDS, Oral Radiology, 7th Edition 2014 , Principles and Interpretation
g) Recommended Books	Eric Waites , Essentials of dental radiography and radiology, 5th ed 2013
h) Scientific periodicals, bulletins, etc…..	Journal of maxillofacial radiology http://www.joomr.org/

Course Coordinator: prof Gihan Omar
Head of Department: Prof Shahira Elashery
3/2016

University: Future University in Egypt.
Faculty: Faculty of Oral and Dental Medicine
Department: conservative dentistry

Course Specification

1- Basic Information		
Course Name: **Dental Materials**	**Course Code:** **615**	**Level:** **1st part, 1stterm**
Master degree in: **Dental Materials** **Operative dentistry** **Endodontics** **Fixed Prosthodontics** **Removable Prosthodontics** **Pedodontics** **Orthodontics**	Credit Hours:2 Contact Hours: 3 Theoretical:1 Practical:2	
2- Aim of the course:	• To present the basic properties of dental materials as they are related to clinical manipulation by the dentist. • To bridge the gap between the knowledge obtained in the basic course in materials science, chemistry, and physics and the dental operatory. • To analyze the benefits and limitations of dental materials. • To make rational decisions on the selection of dental materials and use in a clinical practice.	

3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**	
a) Knowledge and understanding :	a1- Identify the change of state, the interatomic bonds and the crystalline and non crystalline structure. a2- Define the different physical properties. a3- Define the different mechanical properties. a4-Specify the different testing methodology for the different properties. a5- Discuss the biocompatibility of dental materials a6- Define adhesion and cohesion and the factors affecting them. a7- Explain enamel and dentin bonding mechanisms. a8-Classify polymers and their structure. a9- Explain the polymerization mechanisms. a10- Define copolymerization, cross linking and plasticizers. a11- Outline the physical properties of polymers. a12- List the applications of polymers in dentistry. a13- Describe metals and alloys. a14- Explain solidification, and microstructure of metals a15- Distinguish wrought metals. a16- Define coring and homogenization a17- State the different methods of altering mechanical properties of alloys. a18- List the different solid state reactions occurring in alloys. a19- Define tarnish and corrosion, state the different types. a20- Explain the electrochemical corrosion, identify the different types and its application in dentistry. a21- Discuss protection against corrosion.

b) Intellectual Skills:	b 1- Differentiate between different types of bonds. b 2- Relate between microstructure and different properties of dental aterials. b 3- Distinguish between different thermal properties of the materials. b 4- Analyze the effect of proper selection and handling of materials on their optical properties. b 5- Differentiate between different mechanical properties. b 6- Diagram stress – strain curve for different mechanical properties of dental materials. b 7- Analyze the curves for viscoelastic materials. b 8- Predict the properties of materials suitable for construction of long span bridge, removable dentures, anterior or posterior filling materials, orthodontic wires or endodontic files. b 9- Select proper test for tensile strength of brittle materials, fatigue, flexural strength and impact strength of different materials. b 10- Predict the properties of adhesives to achieve proper bonding. b 11- Differentiate between bonding to enamel and to dentin. b 12- Compare between different types of polymers. b 13- Analyze the effect of polymerization reaction, molecular weight, cross linking, copolymerization, plasticizers, fillers, temperature on polymers' properties. b 14- Diagram solidification, and microstructure of metals. b 15- Distinguish wrought metals. b 16- Relate between microstructure of metals and mechanical properties. b 17- Classify different types of alloys. b 18- Compare eutectic to solid solution alloys. b 19- Analyze coring and homogenization. b 20- Select the solid state reaction suitable for adjusting different metallic appliances. b 21- Differentiate between different mechanisms of corrosion. b 22- Setup different instructions for operators and patients to combat corrosion in the oral cavity.

c) Professional and Practical Skills:	c1- Categorize the different materials according to their microstructure. c2- Determine the use of different materials consistent with their physical, mechanical, biological, and chemical properties. c3-Choose the proper testing machine and their use. c4- Find out the behavior of different materials during service in oral cavity.
d) General and transferable skills	d1- Communicate effectively with colleagues, staff members and helping personnel d2- Demonstrate appropriate professional attitude and behavior in different situations
4- Course Contents:	1- Structure of matter. 2- Physical properties 3- Adhesion 4- Mechanical properties 5- Polymers 6- Metallurgy 7- Corrosion

Weeks	Topics	
	Lecture	Lab
1st week	Structure of Matter	Structure of Matter
2nd week	Mechanical properties.	Mechanical Properties
3rd week	Mechanical Properties.	Mechanical Properties.
4th week	Mechanical Properties	Mechanical Properties
5th week	Physical Properties	Physical Properties
6th	Physical Properties	Physical Properties
7th	Adhesion	Adhesion
8th	Polymers	Polymers
9th	Metallurgy	Metallurgy
10th	Metallurgy	Metallurgy
11th	Metallurgy	Metallurgy
12th	Tarnish and Corrosion	Tarnish and Corrosion

5- Teaching and Learning Methods	5-1. Interactive Lectures (including discussions and brain storming. 5-2. Practical and small groups sessions. 5-3. Case study and problem solving 5-4. Demonstrations 5-5. Self study 5-6. Presentations and seminars.
6- Teaching and Learning Methods for special needs students	

7- Student Assessment

a) Assessment Methods

7-a-1. Written examination to assess knowledge and understanding.
7-a-2. Oral examination to assess knowledge and understanding.
7-a-3. Practical examination to assess practical skills

b) Assessment Schedule

Assessment 1: Final written, Practical & oral exams by the end of the course

c) Weighting of Assessment

All Departments Except Orthodontic Students		Orthodontic Students	
Final term Examination	60%	Final term Examination	60%
Oral Examination	20%	Oral Examination	40%
Practical Examination	20%		
Total	100%	Total	100%

8- List of References

a) Course Notes

Hand out : available for students from the department

b) Essential Books (Text Books)

- Sakaguchi, RL and Powers JM: Restorative Dental materials edited by RG Craig. 13th edition.
- Anusavice, KJ; Shen, C and Rawls HR: Phillips' Science of Dental materials. 12th edition

c) Recommended Books

d) Scientific periodicals, bulletins, etc…..

Periodicals, Web Sites, ….etc

Course Coordinator: Prof. Taheya Moussa

Head of Department: prof. Essam Abdelhafez

Date: / 3 /2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: **Laboratory Orthodontics 1**	**Course Code:** **617**	**Level: Part 1, First Semester**
Content: • **Pre-clinical** (Digital Dental Photography) • **Biomechanics**		
Master degree in: Orthodontics	Credit Hours:3 Theoretical:2 Practical: 2	

2- Aim of the course:	**Section A: Preclinical (Digital Dental Photography)** The goal of this course is to convey the photographic knowledge to the attendees, who should be able to manipulate the various parameters of a digital SLR camera to produce high quality extra-oral, intra-oral, and specimen photographs with a publishable standard of international journals. In addition to teaching image editing solutions to manipulate the outcome images in cases of imperfect photographic conditions. **Section B: Biomechanics** The course introduces the residents to mechanical principles and their applications in orthodontic tooth movement and dentofacial orthopedics. It aims at helping candidates to set-up simplified force systems to address any type of tooth movement necessary together with enhancement of wire bending skills for different clinical situations.

3- Intended Learning Outcomes of Course (ILO) : By the end of the course, post graduate student should be able to:	
a) Knowledge and understanding :	**Section A: Pre-clinical** 1. Identify the various components of digital cameras and infer the logical development towards SLR professional cameras. 2. Discriminate between extraoral and intraoral cameras and parameters. **Section B: Biomechanics** 1. Discuss the major concepts and principles that are required to produce safe, predictable and efficient tooth movement. 2. Discuss implications for planning force magnitude, direction, and duration. 3. Compare and contrast couple vs moment. 4. Define the concept of "system equilibrium". 5. Differentiate between the concepts of vector, scaler and resultant in orthodontic forces. 6. Define center of mass (gravity), Center of resistance, center of rotation. 7. Describe free body diagram. 8. Describe equivalent force systems. 9. Discuss the effect of moment /force ratio on the type of tooth movement. 10. Compare and contrast between one-couple vs two-couple appliance systems. 11. Discuss biomechanical principles of different wire bending designs. 12. Define and enumerate basic principles of biomechanics.
b) Intellectual Skills:	**Section A: Pre-clinical** 1. Manipulate the interconnected parameters, settings and programs of the digital SLR cameras to suit the different photographic environment and scenery. 2. Appraise high-quality dental photographs in order to develop the photographic sense. **Section B: Biomechanics** 1. Predict and analyze forces of different orthodontic appliances.

c) Professional and Practical Skills:	**Section A: Pre-clinical** 1. Manipulate the different photographic lenses to produce undistorted high quality images. 2. Implement the photographic knowledge gained to produce high quality dental extra-oral, intra-oral, and specimen photographs. **Section B: Biomechanics** 1. Design different appliances for a specific type of movement and various clinical situations. 2. Predict the type of movements associated with different appliance design. 3. Enhance the treatment outcome through applying sound biomechanical principles.
d) General and transferable skills	**Section A: Pre-clinical** 1. Criticize a dental photograph and employ digital camera settings to improve the outcome of the photographs. 2. Edit into dental photographs via an image editing software to enhance the image quality. 3. Enhance the self-learning and continuous education capabilities to cope with the continuous advancement in Orthodontic photographic armamentarium and techniques. **Section B: Biomechanics** 1. Enhance wire bending skills that could help in optimizing the treatment outcomes. 2. Analyze of mechanism of action of different appliances implemented during orthodontic and orthopedic treatment.

4- Course Contents:	**Section A: Pre-clinical** 1.Getting acquainted 2.Expectations from the course 3.The invention 4.Photographic parameters 5.Camera menu & Buttons 6.Clinical Photography 7.Image criticism and editing 8.Printing **Section B: Biomechanics** 1. Principles of biomechanics: (2 hours) a. Newton's laws of motion b. Vector, scaler and resultant c. Force and types of forces d. Couple vs moment e. Center of mass (gravity) f. Center of resistance g. Center of rotation 2. Principles of biomechanics: (2 hours) a. Equivalent force systems. b. Free body diagram. c. Moment /force and type of tooth movement. d. Static equilibrium 3. Principles of biomechanics: (2 hours) One couple appliances (statically determinant systems) with examples. 4. Principles of biomechanics: (2 hours) Two couple appliances (staticaly indeterminant systems) with examples. 5. Principles of biomechanics: (2hours) a. V-bend principle (symmetric vs asymmetric) (center and off-center). b. Step-bend force analysis
5- Teaching and Learning Methods	**Section1:Preclinical** 1. Lectures 2 Interactive presentations 3 Discussions 4 Brain Storming 5 Hands-on in vitro 6 Clinical photographic sessions 7 Written exams 8 Self-practicing 9 Self-learning 10 Assignments 11 On-line reading **Section2: Biomechanics** 1- Lectures: aided by PowerPoint presentations 2- Problem based learning.

6- Teaching and Learning Methods for special needs students	None
7- Student Assessment	
a) Assessment Methods	1. Written exam (MCQ, short answer questions) 2. Oral Exam 3. Practical Exam: Clinical photographic assessment
b) Assessment Schedule	1. Written exam: Final 2. Oral Exam: Final 3. Practical Exam: Final
c) Weighting of Assessment	• Final written exam: 90 marks • Final Oral exam: 30 marks including the attendance and assignments which are 15 marks out of the 30 • Practical Exam Clinical photographic assessment: 30 Marks

8- List of References	
a) Course Notes	**Section A: Pre-clinical** Interactively written throughout the course **Section B: Biomechanics** None
b) Essential Books (Text Books)	**Section A: Pre-clinical** 1. Shady Samawi, A Short Guide to Clinical Digital Photography in Orthodontics, 2nd Edition (2011) **Section B: Biomechanics** 1. Proffit, W.R.: Contemporary Orthodontics, CV. Mosby Co., Louis, 2011.
c) Recommended Books	**Section A: Pre-clinical** 1. Mastering digital dental photography 2. Clinical Digital Photography (2008) **Section B: Biomechanics** 1. Ravindra Nanda. Biomechanics and Esthetic Strategies in Clinical Orthodontics. Saunders; Edition 1, 2005 2. Nanda, Ram S. Biomechanics in Orthodontics: Principles and Practice. Edition 1 3. Isaacson R, Lindauer S and Rubenstein L. Activating a 2 x 4 appliance. Angle Orthod. 1993;63:17-24. 4. Seminars in Orthodontics, Vol 1, No 1 (March), 1995. 5. Seminars in Orthodontics, Vol 7, No 1 (March), 2001. 6. Mulligan T. Molar control. Part 1. J Clin Orthod. 2002;36:11-23. 7. Mulligan T. Molar control. Part 2. J Clin Orthod. 2002;36:67-78. 8. Mulligan T. Molar control. Part 3. J Clin Orthod. 2002;36:147-58. 9. Mulligan T. Molar control. Part 4. J Clin Orthod. 2002;36:237-46. 10. Mulligan T. Molar control. Part 5. J Clin Orthod. 2002;36:285-90. 11. Mulligan T. Understanding wire/bracket relationships. J Orofac orthop. 2002;63:493-508.
d) Scientific periodicals, bulletins, etc…..	**Section A: Pre-clinical** Digital Photography in Orthodontics Dental Photography, A new Perspective Clinical Photography for the Oral & Maxillofacial Practice **Section B: Biomechanics** To communicate with other healthcare professionals both verbally and in a globally accepted written formats.

Course Coordinator: A. Prof. Dr. Fouad El Sharaby and Dr.Amr El-Beialy

Head of Department: Prof Yehya Mostafa

Date: 3 / 03 / 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: Pre-clinical Orthodontics 1	**Course Code: 619**	**Level: Part 1, First Semester**
Content: Diagnosis		
Master degree in: Orthodontics	Credit Hours: 2, Theoretical:2 Practical:2	

2- Aim of the course:	The course will introduce the students to the concepts of orthodontic diagnosis, so that student demonstrates awareness of different craniofacial & dental orthodontic problems, and be capable to fully diagnose and document the case, to create an orthodontic problem list.

3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**	
a) Knowledge and understanding :	1. Describe the normal growth and development of the Dentofacial complex and hence to realize the deviation from normality. (2a1) 2. Describe the malocclusion case in a systematic manner according to the priority of the different problems. (2a5) 3. Define the real etiological factor causing the malocclusion and how to manage during treatment with respect to each face. (2a1) 4. Identify each patient's face starting from the early beginning (Diagnosis is the art of seeing) 5. Determine the retention plans right from the start of the Dentofacial analysis.
b) Intellectual Skills:	1. Analyze extra & Intra-oral findigs, as well as cast analysis and radiographic analysis, to create a problem list and treatment aims (2B1) 2. Correlate between treatment planning and orthodontic biomechanics, to conduct a proper treatment plan (2B3) 3. Identify external and Internal iatrogenic factors, as root resorption, enamel damage, periodontal problems, that may affect the quality of orthodontic treatment.(2B5)
c) Professional and Practical Skills:	1. Take full medical and dental history from patients (2C4) 2. Assess and diagnoses all types of skeletal and dental malocclusion. (2C5) 3. Integrate malocclusion problems both in diagnosis, treatment planning and management of orthodontic problems. (2C7) 4. Integrate and teamwork with other involved professions as maxillofacial surgeons (2C11) 5. Present all collected diagnostic data in a PowerPoint Report (2C8)

d) General and transferable skills	1. To communicate with other healthcare professionals both verbally and in a globally accepted written formats.(2D1) 2. Use new softwares for cast analysis and radiographic interpretation. (2D2) 3. Employ different sources to acquire new information and knowledge with regards to diagnosis (2D4) 4. Mange time efficiently by being able to fully diagnose a case in the least time possible during the consultation session (2D7) 5. Work in collaboration as an orthodontist with other dental profession to diagnose different types of anomalies. (2D6)

6- Course Contents:	1- Medical and Dental History 2- Extra-oral Examination a. Antero-posteriorly examination b. Vertical examination 3- Extra-oral Examination a. Transverse examination b. Smile examination 4- Intra- Oral examination a. Oral Health b. In Occlusion c. Each Dental Arch 5- Cast Analysis
1. Teaching and Learning Methods	1. Lectures: aided by PowerPoint presentations 2. Practical demonstrations, case presentations and discussions 3. Problem based learning.
2. Teaching and Learning Methods for special needs students	none

3. Student Assessment	
a) Assessment Methods	4. Final Term exam (MCQ, short answer questions) 5. Final Term Oral Exam 6. Record for attendance
b) Assessment Schedule	At the end of the semester
c) Weighting of Assessment	• Final written exam: 60 marks • Final Oral exam: 40 marks including thee attendance and seminars and assignments which are 10 marks out of the 40

4. List of References	
a) Course Notes	Notes handed to students as hard copies
b) Essential Books (Text Books)	• Proffit, W.R.: Contemporary Orthodontics, CV. Mosby Co., Louis, 2015. • Laura Mitchell. Introduction to Orthodontics. Fifth Edition. Jan,2013 Oxford University • Thomas M. Graber, and Robert L. Vanarsdall: Orthodontics current principles and techniques. Third edition. 2000 Mosby.

7. Recommended Books	1. Athanasios E Athanasiou: Orthodontic Cephalometry. Mosby 1995 2. Robert E. Moyers: Handbook of Orthodontics. 4th edition, Section II ,Year Book Medical Publishers,Inc.1988 3. Thomas Rakosi,Irmtrud Jonas and Thomas M.Graber:Color Atlas of Dental Medicine Orthodontic Diagnosis . Thieme 1993 4. Samir E. Bishara : Textbook of Orthodontics. Section II, W.B.Saunders Company 2001 5. Staley R.and Reske N.: Essentials of Orthodontics, Diagnosis and Treatment. 2011 6. Alexander Jacobson : Cephalometric Radiography from Basics to 3-D Imaging. Second Edition. Aug2006. Quintessence Publishing Co Inc., US
8. Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: Prof.Dr.Essam Nassef

Head of Department: Prof. Dr. Yehya Mostafa

Date: 3 / 3 / 2016

University: Future University in Egypt.
Faculty: Faculty of Oral and Dental Medicine
Department*: oral biology and oral pathology*

Course Specification

1- Basic Information		
Course Title: oral pathology	**Course Code:602**	**Level: 1st part master`s degree**
Master degree in: All specialties	Credit Hours: 3 Theoretical:2Practical:2	

2- Aim of the course:	1. To demonstrate common pathological diseases affecting the periapical area. 2. To highlight the differences between different types of cysts of oral and paraoral region. 3. To underline different types of odotogenic tumors.
3- Intended Learning Outcomes of Course (ILO): **By the end of the course, post graduate student should be able to:**	
a) Knowledge and understanding :	a1- Describe the process of pulp necrosis and calcification a2-. Discuss different diseases affecting the periapical area a3- describe dental granuloma, dental abscess and alveolar osteitis a4- Identify the clinical signs & symptoms of acute and chronic osteomyelitis a5- Categorize odontogenic cysts a6- Summarize soft tissue cysts a7- Classify odontogenic tumors into epithelial, mesenchymal and mixed.

b) Intellectual Skills:	b1- Differentiate between pulp necrosis and calcifications. b2- Evaluate diseases of the periapical areas. b3- Distinguish between periapical granuloma, cyst and alveolar osteitis b4- Analyze types of osteomyelitis b5- Differentiate between different types of odontogenic cysts according to clinical, histological and radiographic pictures and compare them with soft tissue cysts. b6-Subdivide epithelial, mesenchymal and mixed odontogenic tumors according to their clinical behavior, histological and radiographic pictures.
c) Professional and Practical Skills:	c1- Hypothesize treatment plan to different diseases affecting periapical area (dental granuloma, abscess and alveolar osteitis) c2-Estimate the clinical signs and symptoms of acute and chronic osteomyelitis . c3- Predict the recurrence rate of odontogenic cysts and tumors based on their clinical behavior and histological pictures.
d) General and transferable skills	d1- Demonstrate appropriate professional attitudes and behavior in dealing with staff members & helping personnel . d2- Communicate effectively both verbally and in writing with other health care professionals to maximize patient benefits and minimize the risk of errors and to teach surgeons to convey the disease grade according to the commonly used grading systems worldwide. d3- Apply the information technology as a means of communication for data collection and analysis and for life – long learning . d4- Identify the socioeconormic , cultural , geographical & accupational factors that may influence etiology of oral pathological conditions and the impact of disease on the community

4- Course Contents:	• Pulp necrosis and calcification • Diseases of periapical area • Dental granuloma, abscess and alveolar osteitis • Osteomyelitis (acute and chronic) • Odontogenic cysts • Classification of inflammatory odontogenic cysts • Soft tissue cysts • Odontogenic tumors • Classification of epithelial odontogenic tumors • Mesenchymal and mixed odontogenic tumors
5- Teaching and Learning Methods	• Lectures with discussions (interactive lectures), Data show presentation, brain storming, and case study. • Practical sessions. • Microscopic slides: Demonstration of slides using computer projection, Discussion and practice of the skill of identification of microscopic slides.
6- Teaching and Learning Methods for special needs students	Individual (one on one classes with one of the TA`s or lecturers during hours agreed upon by the student and the staff members
7- Student Assessment	
a) Assessment Methods	• written examination to assess knowledge and understanding and assessment of general intellectual skills • Multiple choice questions to assess knowledge and understanding and assessment of general intellectual skills • Oral examination to assess knowledge and understanding (and assessment of practical skills & assessment of general intellectual skills) • Practical examination to assess knowledge and understanding and assessment of practical skills and assessment of general intellectual skills
b) Assessment Schedule	Final written exam (at the end of the semester) Final practical exam (at the end of the semester) Final oral exam(at the end of the semester)
c) Weighting of Assessment	Final written exam (90 marks of 150) Final practical exam (30 marks of 150) Final oral exam (30 marks of 150)

8- List of References	
a) Course Notes	The lecture notes are available (based on the latest edition of `oral and maxillofacial pathology / Neville)
b) Essential Books (Text Books)	Brad Neville, Doglas d. dam, Carl allen, et al 2015, Oral and Maxillofacial pathology 4th ed., Sanders.
c) Recommended Books	Colored Atlas of oral pathology
d) Scientific periodicals, bulletins, etc…..	

Course Coordinator: Dr. Adham Hussein Fahmy
Head of Department: prof. Rehab Abdulmoneim
Date: / 3 /2016

University: Future University in Egypt.
Faculty: Faculty of Oral and Dental Medicine
Department*: oral biology and oral pathology department*

Course Specification

1- Basic Information		
Course Title: Oral histology 2	**Course Code: 604**	**Level:1st part – 2nd semester**
Master degree in: **Orthodontics** **Fixed prosthetic dentistry** **Operative dentistry** **Prosthetic dentistry** **Oral and maxillofacial surgery**	Credit Hours: 3 Theoretical:2 Practical:2	
2- Aim of the course:	• To keep pace with recent advances and to provide an expanded knowledge about histology, embryology and physiology of cementum, pulp and shedding and eruption. • To serve as a basis for understanding the clinical courses such as oral pathology, oral surgery and oral medicine	
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**		
a) Knowledge and understanding:	▪ Identify cementum & pulpal dental tissues. ▪ Describe the structure and function of cementum & pulp. ▪ Discuss important para-oral structures closely related to the oral cavity. ▪ Explain the clinical significance associated with these para-oral structures. ▪ Describe the histological age changes of cementum, pulp & some para-oral structures. ▪ Describe histology & physiology of teeth eruption & shedding.	

b) Intellectual Skills:	1- Differentiate between the different oral and para-oral tissues. 2- Illustrate the importance of the para-oral tissues and their clinical implications on the dental & other oral tissues. 3- Distinguish any age changes or abnormalities that might affect some dental cementum, pulp & some para-oral tissues.
c) Professional and Practical Skills:	1. Interpret the normal histology of dental cementum & pulp & para-oral tissues through power point data show. 2. Draw the histological structure of dental cementum, pulp & para-oral tissues.
d) General and transferable skills	1. Communicate effectively with colleagues and interact in a team work. 2. Demonstrate appropriate professional attitude and behavior in different situations. 3. Manage time effectively.
4- Course Contents:	• Cementum • Pulp • Shedding • Eruption • Embryology (Cranio- facial embryology) • Maxillary Sinus • Tempro-mandibular joint
5- Teaching and Learning Methods	a) Interactive lectures: including power point data show, videos and brain storming. b) Practical and small group sessions: Each practical session is preceded by slide demonstration, description and drawing of oral tissues. c) Class discussions. d) Drawing in the practical books under supervision of the responsible staff members.
6- Teaching and Learning Methods for special needs students	Direct observation Individual teaching

7- Student Assessment	
a) Assessment Methods	a) Written examination to assess knowledge and understanding and intellectual skills. b) Oral examination to assess knowledge and understanding and intellectual skills and attitude. c) Practical examination to assess practical skills & intellectual skills & general skills. d) Practical book to assess practical skills. e) Research assignments. f) Presentations and seminars.
b) Assessment Schedule	Final term
c) Weighting of Assessment	Final term Examination 90 Oral Examination 30 Practical Examination 30 Total 150

8- List of References	
a) Course Notes	*Department handouts
b) Essential Books (Text Books)	• Mary Bath-Balogh,Margaret J. Fehrenbach, Dental Embryology Histology and anatomy. • TenCate's Oral Histology Development, Strucure and Function.
c) Recommended Books	----
d) Scientific periodicals, bulletins, etc…..	Websites related to the study subject: Science direct- Pub Med

Course Coordinator: Rehab Abdul Moneim
Head of Department: Rehab Abdul Moneim
Date: / 3 /2016

University: Future University in Egypt.
Faculty: Faculty of Oral and Dental Medicine
Department*: general supplementary sciences*

Course Specification

1- Basic Information		
Course Title: Anatomy (of Neck)	**Course Code: 606**	**Level: Part I, second semester**
Master degree in: **-Orthododontics.** **-Removable Prosthodontics.** **-Oral and maxillofacial Surgery.** **-Conservative Dentistry.**	Credit Hours: Theoretical: 2 - Practical: 1	
2- Aim of the course:	• To apply anatomical facts while examining the living subject to reach the proper diagnosis. • To identify the different surface markings of neck with determining the position of muscles and their actions and the course of nerves and vessels. • To interpret the normal anatomical structures of neck on radiographs of different regions of neck. • To provide appropriate ethical and professional education necessary for dealing with cadavers. • To correlate anatomical facts with its clinical application.	
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**		
a. Knowledge and understanding :	**1-** Discuss the basic principles of the structure of different muscles, nerves, vessels, and glands of neck. **2**. Describe the basic features of muscles, nerves, vessels and glands of the neck. **3-** Outline major clinical applications in the core syllabus of anatomical facts.	
b. Intellectual Skills:	**1-** Correlate anatomy of different surface markings in determining the position or course of internal structure of the neck. **2-** Explain the clinical significance of muscle actions.	

c. Professional and Practical Skills:	**1-** Apply the learned anatomical facts while examining living subject to reach the proper diagnosis. **2-** Identify the different muscles, glands, major vessels and nerves in human cadavers. **3-** Interpret radiograph, C.T, and magnetic resonance images.
d. General and transferable skills	**1-** Maintain honesty and integrity in all interactions with teachers, colleagues, patients and others with whom dentists/oral surgeons must interact with in their professional lives. **2-** Appreciate their role as well as the necessity of seeking the collaboration of other workers on as needed basis. **3-** Take responsibility towards all work rules and regulations. **4-** Motional stability in all unusual stressful situations**.**

4- Course Contents:	• **Skin, fascia of the neck:** superficial fascia with structures embedded inside, parts of deep fascia (site and extension of each part). (1 hour) • **Deep fascia:** parts, site, extensions and related tissue spaces. Spread of neck infection from abcess around roots of teeth of lower jaw. (1 hour) • **Sternomastoid muscle:** Site, attachments, nerve supply, relations and results of spasmodic contraction. (1 hour) • **Posterior triangle of the neck**: Boundaries, site, parts, contents andSubmandibular region: results of injury at its roof. (1 hour). • **Anterior triangle of the neck**: Site, boundaries and divisions. (1 hour) • **Carotid triangle**: Site, boundaires, contents and significance of carotid body and sinus. • **Submandibular region:** (5 hours) -Submandibular muscles. -Submandibular and sublingual salivary glands. -Lingual nerve and submandibular ganglion. -Digastric triangle (boundaries and contents). -Submental triangle (boundaries and contents). • **Infrahyoid muscles:** Site, attachments, nerve supply and action. Muscular triangle (Site, boundaries and contents). (1 hour) • **Thyroid gland:** Site, parts, relations, blood supply and nerves related to the main arteries. Parathyroid glands (number and site). Clinical points related to enlargement of the gland and thyroidectomy. (1 hour) • **Trachea & esophagus:** Site, extensions, relations, blood supply and nerve supply. (1 hour) • **Carotid arteries (common, external & internal):** Course and branches. Carotid body and sinus (site, function and nerve supply). (1 hour) • **Jugular veins (anterior, external and internal):** Site, course and tributaries. Effects of cut injury of external jugular vein at the roof of posterior triangle. (1 hour) • **Lower 4 cranial nerves:** Course, branches and clinical points related. (2 hours) • **Cervical plexus and cervical sympathetic chain:** Site, branches. (1 hour) • **Root of the neck:** (3 hours) -Scalene muscles (attachments, nerve supply and action). -Sublavian artery (Site, course and branches).

5- Teaching and Learning Methods	**1. Didactic Lectures:** for acquisition of course knowledge, one two-hour lecture per week. **2. Practical classes:** including practical demonstration on dissected specimen and radiological films in the dissecting room, one two-hour session per week. **3. Tutorial classes:** 2 hours weekly before dissecting a major region and a brief discussion by the end of each practical lesson. **4. Self-Assessment:** As appropriate, self-assessment questions in the form of short essay and/or MCQs.
6- Teaching and Learning Methods for special needs students	-----
7- Student Assessment	
a) Assessment Methods	**1. Written examination:** (2) hours Assessment of Knowledge and understanding in the form of assay, MCQ and fill in the blanks questions. **2. Oral examination:** (10-15) minutes Assessment of understanding of pre-identified knowledge. **3. Practical examinations:** Three minutes per station for a total of 10 stations, testing Identification Knowledge of different anatomical structures on bones and human cadaver. **4. Logbook Assessment** of practical activities.
b) Assessment Schedule	**Assessment 1:** MCQ Quiz exam **Assessment 2:** Mid Term Exam (Essay, fill in the blanks, and MCQ) **Assessment 3:** MCQ Quiz exam **Assessment 4:** Practical exam **Assessment 5:** Oral exam **Assessment 6:** Final written exam
c) Weighting of Assessment	**Assessment 1:** 2.0 % **Assessment 2:** 6.0 % **Assessment 3:** 2.0 % **Assessment 4:** 10.0 % **Assessment 5:** 20.0 % **Assessment 6:** 60.0 %
8- List of References	
a) Course Notes	Available in hard copy

b) Essential Books (Text Books)	Netter's Head and Neck Anatomy for Dentistry.
c) Recommended Books	1-Gray's Anatomy for student 2-Cunningham's Text Book of Anatomy
d) Scientific periodicals, bulletins, etc…..	

Course Coordinator: Dr. Sherif Fahmy Arsanyos
Head of Department: Dr. Nagwa Roshdy
Date: 3/3 /2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department: *Oral medicine periodontology diagnosis and radiology*

Course Specification

1- Basic Information		
Course Title: oral radiology	**Course Code: 612**	**Level: 1st year master degree**
Master degree in:	Credit Hours: 3/ Theoretical: 2/Practical: 2	
2- Aim of the course:	1. To train students to clinical imaging sciences including CT, CBCT, MRI, US, contrast and enhanced imaging 2. To enable the students to interpret normal radiographic anatomy in intra oral and extra oral radiographs, CT and CBCT 3. To identify radiographic manifestation of local and systemic diseases in head and neck region.	
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**		
a.Knowledge and understanding :	1. Identify and list anatomical landmarks related to various intra-oral and extra-oral radiographs. 2. Explain the principles of extra-oral radiographic techniques and understand their indications 3. Discuss the methodological approach and principles of radiographic interpretation and description of lesions. 4. Describe different carious lesions and radiographic methods of their evaluation. 5. describe different periodontal lesions and radiographic methods of their evaluation	
b. Intellectual Skills:	1. Discuss principles of radiation biology, doses, and methods of protection with special emphasis on th ALARA concept 2. Formulate complete radiographic report for intraoral CMS, panoramic and extra oral radiographs. 3. Formulate a differential diagnosis list of a lesion	

c. Professional and Practical Skills:	1- Appreciate normal radiographic anatomy and variations as well as common dental pathology seen on intraoral radiographs. 2- Learn the radiographic interpretation basics to enhance diagnostic skills and also on extra-oral radiography, panoramic radiography and digital radiography. 3- Identify different radiographic carious lesions. 4- Perform radiographic assessment means of different periodontal lesions. 5- Interpret radiographs of some teeth-related syndromes, as well as traumatic injuries of teeth and jaws.
d. General and transferable skills	1- Demonstrate appropriate professional attitudes and behavior in different situations toward patients, colleagues and supervisors. 2- Provide empathic care for all patients without discrimination. 3- Regularly assess one's knowledge and skills, and seek additional information to correct deficiencies and enhance performance. 4- Implement and monitor infection control and environmental safety programs according to current standard

4- Course Contents:	• radiation protection of the patient, operator, personal, and environment • Introduction to DD and description of the lesion • Periapical RL • Pericoronal RL • Solitary well defined RL • Solitary ill-defined RL • Interradicular RL • Multilocular RL • Multi-focal RL • Generalized RL • Mixed RL-RO (contacting teeth) • Mixed RL-RO(not contacting teeth) • RO lesions • Interpretation and misinterpretation of carious lesions • Interpretation of periodontal diseases • Alternative and specialized imaging modalities (CT. CBCT, MRI and US, scintigraphy and sialography)
5- Teaching and Learning Methods	• Lectures by PPS presentations • Clinical training: • Demonstrations and videos • Work sheets and surveys • Report back sessions • rotations in radiology department • literature review seminars • Group work, team work, and self-presentation
6- Teaching and Learning Methods for special needs students	-----
7- Student Assessment	
a) Assessment Methods	• formative quizzes • clinical requirements, and reports • Final Written exam • Final Oral exam • Final clinical exam

b) Assessment Schedule	• First midterm exam(week5) • Second midterm exam(week10) • Practical exam(week 12) • Oral exam (end of semester) • Final written exam(end of semester)
c) Weighting of Assessment	• Midterm written exam (20%) • Practical exam (20%) • Oral exam (20%) • Final written exam (40%)

8- List of References	
a) Course Notes	Course notes available PPS available for the students from the department
b) Essential Books (Text Books)	Oral Radiology, 7th Edition 2014 , Principles and Interpretation By Stuart C. White, DDS, PhD and Michael J. Pharoah, DDS
c) Recommended Books	Essentials of dental radiography and radiology, Eric Waites, 5th ed 2013
d) Scientific periodicals, bulletins, etc…..	Journal of maxillofacial radiology http://www.joomr.org/

Course Coordinator: prof. Gihan Omar
Head of Department: prof. Shahira Elasheiry
3/2016

University: Future University in Egypt.
Faculty: Faculty of Oral and Dental Medicine
Department: *conservative dentistry*

Course Specification

1- Basic Information		
Course name :Dental materials	**Course Code:616**	**Level: Master degree 1st part 2nd term**
Master degree in: • **Dental materials** • **Operative** • **Fixed Prosthodontics** • **Removable Prosthodontics** • **Orthodontics** • **Pedodontics** • **Endodontics**	*Credit Hours: 2 credit hours (3 contact hours)Theoretical: 1* *Practical: 2*	
2- Aim of the course:	• To present the basic properties of dental materials as they are related to clinical manipulation by the dentist. • To analyze the benefits and limitations of dental materials. • To make rational decisions on the selection of dental materials and use in a clinical practice. • To discover recent advances in different dental materials and analyze their benefits and limitations.	

3- Intended Learning Outcomes of Course (ILO) :

By the end of the course, post graduate student should be able to:

a) Knowledge and understanding :	a 1- Identify the chemistry of setting, basic principles and technical considerations of gypsum products and list the different die materials used in dentistry. a 2- List the requirements, components and types of investment materials. a 3- Identify the purpose, requirements, classifications, and general characteristics of impression materials in regards to indications and limitations. a 4- Identify casting procedures and the possible defects and how to overcome these defects. a 5- Identify the different types of dental casting alloys, their properties, methods of casting and uses. a 6- Identify the different types of wrought base metal alloys, their properties and their uses in dentistry. a 7- Describe soldering and welding procedures. a 8- Describe the structure, properties and technical considerations of dental amalgam. a 9- Identify the types, properties, processing techniques of denture base resins. a 10- List the different resilient liners and tissue conditioners for dentures. a 11- Identify the different types of direct esthetic restorative materials, their requirements, compositions, properties and clinical applications. a 12- Identify the different classes of ceramics, their compositions and method of strengthening with focusing on recent advances in all ceramic materials and their processing techniques. a 13- List different types of dental cements and identify their classification, uses and properties. a 14- Discover the newly introduced materials and describe a criterion for their selection.

b) Intellectual Skills:	b 1- Predict the ideal requirements of different materials used in dentistry that are related at most to their specific use. b 2- Categorize different materials used in dentistry. b 3- Relate the effect of materials' composition to their properties. b 4- Predict the best use of materials according to their properties. b 5- Analyze the need of materials to modifications.
c) Professional and Practical Skills:	c1- differentiate different dental materials and their mode of supply. c2- manipulate the different dental materials Properly. c3- Select the appropriate material suitable for each clinical situation.
d) General and transferable skills	d1- Improve Communication skills effectively through presentation of the seminars. d2- Demonstrate appropriate professional attitude and behavior in different Situations

4- Course Contents:	1- Model and Die Materials 2- Investment Materials 3- Casting technology 4- Dental Casting Alloys 5- Impression Materials 6- Dental Cements 7- Direct Esthetic Restorative Materials 8- None Metallic Denture Base 9- Dental Ceramics: All ceramic materials and processing techniques 10- Dental Amalgam 11- Wrought Wire Alloys 12- Joining of metals and alloys
5- Teaching and Learning Methods	1. Interactive lectures including discussion and brain storming 2. Small groups sessions 3. Case study and problem solving 4. Demonstration 5. Self study 6. seminars and presentation
6- Teaching and Learning Methods for special needs students	1. Written examination to assess knowledge and understanding. 2. Individual oral examination to assess knowledge and understanding. 3. Practical examination

7- Student Assessment

a) Assessment Methods	• **All departments except orthodontics:** 1. Written examination to assess knowledge and understanding. 2. Oral examination to assess knowledge and understanding. 3. Practical examination • **Orthodontic department:** 1. Written examination to assess knowledge and understanding. 2. Oral examination to assess knowledge and understanding.
b) Assessment Schedule	1: Practical exam 2: Final written & oral exam
c) Weighting of Assessment	• All departments except orthodontics: Practical Examination 20 % Oral Examination 20 % Written Examination 60 % Total 100% • Orthodontic department: Oral Examination 40 % Written Examination 60 % Total 100%

8- List of References

a) Course Notes	• Handout of presented seminars
b) Essential Books (Text Books)	• Anusavice KJ, shen C, Rawls HR; Phillips' Science of Dental materials. 12th edition, 2013, Elsevier.
c) Recommended Books	• Sakguchi RL, power JM; Craig's Restorative Dental materials. 13th edition, 2012, Elsevier.

Course Coordinator: prof. Taheya Mousa

Head of Department: Prof. Essam Abdelhafez

Date: / 3 /2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: **Laboratory Orthodontics 2**	**Course Code: 618**	**Level: Part 1, Second Semester**
Content: • Pre-clinical (Orthodontic Impressions) • Fixed Appliances		
Master degree in: **Orthodontics**	Credit Hours: 3, Theoretical:2 Practical:2	

2- Aim of the course:	Pre-Clinical (Orthodontic Impressions): The goal of this course is to explain the philosophy of orthodontic impression, and transfer this clinical skill to the candidates. The candidates should be able to produce and distinguish a good orthodontic impression. The candidates should be exposed to the new modalities of digital impression taking and be able to manipulate the digital copy and make use of it in digital orthodontic planning. Fixed Appliances: The Aim of the Fixed appliance course is to provide information on scope and limitations of fixed orthodontic appliances

3- Intended Learning Outcomes of Course (ILO) : By the end of the course, post graduate student should be able to:	
a) **Knowledge and understanding :**	<u>Pre-Clinical (Orthodontic Impressions):</u> a- Identify the various techniques for taking orthodontic impressions b- Recognize quality orthodontic impressions. c- Elaborate of the recent techniques for digital orthodontic impression taking <u>Fixed Appliances:</u> a- Describe the design, manufacture and construction of fixed orthodontic appliances b- Describe the various types of fixed orthodontic appliances c- Discuss the types of preadjusted edgewise appliances and prescriptions d- Identify other appliance systems including Tip- Edge and self-ligating bracket systems e- Describe intra-oral auxiliaries, temporary anchorage devices
b) Intellectual Skills:	<u>Pre-Clinical (Orthodontic Impressions):</u> a- Distinguish quality orthodontic impressions. b- Recognize the importance of the recent digital orthodontic impressions c- Integrate orthodontic impressions into the orthodontic treatment planning <u>Fixed Appliances:</u> a- Integrate orthodontics with other dental and non-dental professions.
d- Professional and Practical Skills:	<u>Pre-Clinical (Orthodontic Impressions):</u> a- Produce high quality orthodontic impressions b- Use the recent digital technology for digital orthodontic impression taking c- Manipulate the outcome of the orthodontic impression <u>Fixed Appliances:</u> a- Select, fits and manages fixed appliance systems appropriate to the treatment of specific malocclusions b- Interpret the literature with regard to bracket c- Identify the appropriateness of fixed appliances for the treatment of specific malocclusions

e- General and transferable skills	a- To communicate with other healthcare professionals both verbally and in a globally accepted written formats b- Interpret the outcome of the orthodontic impression and integrate the results into the orthodontic treatment plan

4- Course Contents:	**<u>Pre-Clinical (Orthodontic Impressions):</u>** **Lecture1:** Discussion of the importance of orthodontic impression Presentation of the tools needed for orthodontic impression (Orthodontic trays, impression material, stone plaster, impression pouring) The recent techniques for digital orthodontic impression taking **Lecture 2:** Practical session for digital impression taking Hands-on for impression taking **Lecture 3:** Live demonstration on digital impression taking Hands-on for digital impression taking **Lecture 4:** Manipulation of the outcome of orthodontic impression Data extraction and integration into the digital orthodontic file **Lecture 5:** Criticising orthodontic impression The side effects of unprofessional impression taking **<u>Fixed Appliances:</u>** **Lecture1:** Components of fixed orthodontic appliances **Lecture 2:** The pre-adjusted fixed orthodontic appliances **Lecture 3:** Tip –edge appliance, Synergy system and Self ligating brackets **Lecture 4:** Archwires & Auxiliaries

	Lecture 5: Leveling and aligning Space Closure **Lecture 6:** Torque Finishing and settling phase **Lectue7:** Occurrence of nickel allergy Arch form **Lecture 8:** Banding in the contemporary orthodontic practice Orthodontic bonding, the basic mechanism of bonding teeth, bonding materials.
5- Teaching and Learning Methods	1- Lectures. 2- Practical demonstrations, case presentations and, discussions. 3- Problem based learning. 4- Oral presentations of selected topics.
6- Teaching and Learning Methods for special needs students	None
7- Student Assessment	
a) Assessment Methods	7. Written exam (MCQ, short answer questions) 8. Oral Exam 9. Practical Exam: Orthodontic Impressions assessment
b) Assessment Schedule	1. Written Exam : Final 2. Oral Exam: Final 3. Practical Exam: Final
c) Weighting of Assessment	• Final written exam: 90 marks • Final Oral exam: 30 marks including thee attendance and assignments which are 15 marks out of the 30 • Practical Exam: Orthodontic Impressions assessment: 30 Marks

8- List of References	
a) Course Notes	None
b) Essential Books (Text Books)	• Proffit, W.R.: Contemporary Orthodontics, CV. Mosby Co., Louis, 2011. • McLaughlin. Bennet. Trevisi, Systemized Orthodontic Treatment Mechanics, Mobsy, 2001

c) Recommended Books	Pre-Clinical: • G.Snigh, Textbook of Orthodontics, Jaypee Brothers Medical Publishers (P) Ltd.; 2nd edition (December 31, 2007) • William A. Brantley, Orthodontic Materials, Scientific and Clinical Aspects, Thieme 2001 Fixed Appliances: 1. Graber TM, Rakosi T, Petrovic AG, eds. Dentofacial Orthopedics with Functional Appliances. St. Louis: Mosby; 1997. 2. Adams CP. The Design and Construction of Removable Appliances, ed 4. Bristol, England: John Wright & Sons; 1970. 3. Sheridan JJ, Ledoux W, McMinn R. Essix appliances: Minor tooth movement with divots and windows. J Clin Orthod 28:659-665, 1994. 4. Sheridan JJ, Armbruster P, Nguyen P, Pulitzer S. Tooth movement with E mounding. J Clin Orthod 38:435-441, 2004. 5. Turpin DL. Clinical trials needed to answer questions about Invisalign. Am J Orthod Dentofacial Orthop 127:157-158, 2005. 6. Angle EH. The latest and best in orthodontic mechanisms. Dent Cosmos 70:1143-1158, 1928. 7. Begg PR, Kesling PC. Begg Orthodontic Theory and Technique, ed 3. Philadelphia: WB Saunders; 1977. 8. Parkhouse RC. Tip-Edge Orthodontics. Edinburg/New York: Mosby; 2003. 9. Andrews LF. Straight Wire: The Concept and Appliance. San Diego: LA Wells; 1989. 10. Ewoldsen N, Demke RS. A review of orthodontic cements and adhesives. Am J Orthod Dentofacial Orthop 120:45-48, 2001. 11. Derks A, Katsaros C, Frencken JE, van't Hof MA, Kuijpers-Jagtman AM. Caries-inhibiting effect of preventive measures during orthodontic treatment with fixed appliances. A systematic review. Caries Res 38:413-420, 2004.

d) Scientific periodicals, bulletins, etc…..	a- William E. Harrell, Jr, David C. Hatcher, and Raymond L. Bo. In search of anatomic truth: 3-dimensional digital modeling and the future of orthodontics. Am J Orthod, Dentofac Orthop 2002;325-30. b- Technobytes section of the Am J Orthod, Dentofac Orthop recent issues from 2010-currently. c- The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: Dr Amr El Beialy

Head of Department: Dr. Yehya Mostafa

Date: 2 / 3/ 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: **Pre-clinical Orthodontics 2**	**Course Code: 620**	**Level: Part 1, Second Semester**
Content: • Cephalometrics • Tissue Reaction		
Master degree in: Orthodontics	**Credit Hours2, Theoretical:2 Practical:2**	

2- Aim of the course:	**Section A: Cephalometrics** 1. Application of the analytical and clinical methods in the use of cepahlometric tracings and integrate it with relevant anatomic, etiologic & radiographical knowledge in his professional practice. 2. Knowledge of the accurate technique by which the cephalometric x-ray could be traced and interpreted 3. Accurate diagnosis by the use of Cephalometrics 4. Aacquire the knowledge regarding the various tracing techniques 5. Develop himself academically, clinically and to have the capability of self-learning and continuous education, by being up to date with the most recent researches published, attending conferences and courses. **Section B: Tissue Reaction** This course will cover the histologic, cellular, and molecular basis for orthodontic tooth movement, root resorption and dentofacial orthopedics using historic and current findings in general bone biology, orthopedics and orthodontics.

3- Intended Learning Outcomes of Course (ILO) :

By the end of the course, post graduate student should be able to:

a) Knowledge and understanding :	**Section A: Cephalometrics** 1. Understand the theories and fundamentals related to Cephalometric tracings. 2. Associate Mutual influence between cephalometric x-ray, etiology and diagnosis 3. Know the scientific concept and the new techniques in the use of Cephalometrics 4. Apply principles and fundamentals of quality in diagnosis and treatment planning **Section B: Tissue Reaction** 1. Recall the biology of supporting tissues. 2. Discuss bone metabolism. 3. Review the biologic response of periodontal structures to orthodontic forces. 4. Discuss the transmission of mechanical influence into cellular reactions. 5. Describe the tissue response in sutures. 6. Underline the iatrogenic response of supporting tissues in orthodontics. 7. List the effects of drugs on orthodontic tooth movement. 8. Relate genetics to orthodontic tooth movement.
b) Intellectual Skills:	**Section A: Cephalometrics** 1. Analyze diagnostic findings to create an orthodontic problem list and treatment aims 2. Solve orthodontic problems related to skeletal discrepancies and growing patients. And defining the growth status 3. Conduct a proper orthodontic treatment plan and mechanics 4. Apply analytical methodology in conducting research study, and/ or writing a methodical scientific study on a research problem related to Cephalometrics. 5. Identify the limitations of cephalometric x-ray 6. Plan in developing the tracing techniques. 7. Demonstrate the ability of taking professional decision regarding the type of appliance and the time of intervention after tracing **Section B: Tissue Reaction** 1. Manage tissue reaction in different medically compromised patients. 2. Plan for treatment of various adverse effects during orthodontic tooth movement. 3. Implement different contemporary modalities to control the rate of tooth movement.

c) Professional and Practical Skills:	**Section A: Cephalometrics** 1. Apply basic skills and new advanced techniques in cephalometric tracing. 2. Diagnose all types of skeletal and dental problems that could be extracted from the radiograph. 3. Apply the most commonly used tracing methods. 4. Present all collected diagnostic data and treatment plan in a PowerPoint presentation for instructor evaluation. 5. Carry out hands on cephalometric tracing. **Section B: Tissue Reaction** 1. Master to the Control of forces eliciting the cellular and morphological reaction to tooth movement. 2. Enhance the periodontal tissue response to different types of tooth movement through mastering different techniques for acceleration or deceleration of orthodontic tooth movement. 3. Predict adverse effecst of tooth movement based on patient's periodontal health condition.
d) General and transferable skills	**Section A: Cephalometrics** 1. Communicate effectively and diversely in multicultural work environment in verbal and non-verbal ways 2. Use information technologies towards serving digitized tracing methods. 3. Perform self-assessment in professional abilities, performance and progress, as well as determine the personal educational needs and effectively recognize and utilize all sources for continuing professional development and life–long learning. 4. Employ different sources to acquire information and knowledge. 5. Set up rules and performance indicators for assessment of the success of different tracing techniques 6. Work in collaboration as a member of an interdisciplinary team and team leading in different professional contexts 7. Manage time effectively: by the use of digitized tracing 8. Self-learning by clinical practice on different cases. 9. Prioritize workload and manage personal stress in the framework of proper performance and management. **Section B: Tissue Reaction** 1. Implement the proper appliance design for a specific type of tooth movement. 2. Control the rate of orthodontic tooth movement through implementation of different acceleration and deceleration modalities. 3. Manage different adverse effects during orthodontically induced tooth movement.

4- Course Contents:	**Section A: Cephalometrics** 1. The Cephalostat 2. Indications of cephalometrics 3. Errors and limitations of cephalometric x-ray 4. Different tracing methods in the antero-posterior plane 5. Different tracing methods in the vertical plane 6. Different tracing methods to detect dental changes 7. Super-impositions. 8. Postero-anterior cephalometry 9. Tracing hands-on. **Section B: Tissue Reaction** 1. Tooth supporting tissues and physiologic tooth movement. 2. Bone metabolism. 3. Tissue response in periodontium and histomorphology of tooth movement. 4. Regulation of tooth movement by inflammatory mediators, neurotransmitters and cytokines. 5. Transmission of mechanical influence into cellular reaction. 6. Biomechanical factors and orthodontic forces 7. type of forces 8. magnitude of forces 9. duration of force 10. e. types of tooth movement. 11. Effect of drugs on orthodontic tooth movement. 12. Genetics and orthodontic tooth movement. 13. Iatrogenic response of supporting tissue in orthodontics.
4. Teaching and Learning Methods	**Section A: Cephalometrics** • Lectures (one hour per week). • Practical demonstrations and discussions • Problem based learning. **Section B: Tissue Reaction** • Lectures (one hour per week). • Practical demonstrations and discussions • Problem based learning.
5. Teaching and Learning Methods for special needs students	None
6. Student Assessment	
a) Assessment Methods	10. Written exam (MCQ, short answer questions) 11. Oral Exam

b) Assessment Schedule	1. Written exam: Final 2. Oral Exam: Final
c) Weighting of Assessment	• Final written exam: 60 marks • Final oral exam: 40 marks including the attendance and assignments which are 20 marks out of the 40

7. List of References

a) Course Notes	None
b) Essential Books (Text Books)	**Section A: Cephalometrics** 1. Proffit, W.R.: Contemporary Orthodontics, CV. Mosby Co., Louis, 2011. 2. Laura Mitchell. Introduction to Orthodontics. Fifth Edition. Jan,2013 Oxford University **Section B: Tissue Reaction** Krishnan V., Davidovitch Z. Biological Mechanisms of Tooth Movement, 2nd Edition, Wiley-Blackwell, April 2015 .
c) Recommended Books	**Section A: Cephalometrics** 1. Alexander Jacobson : Cephalometric Radiography from Basics to 3-D Imaging. Second Edition. Aug2006. Quintessence Publishing Co Inc., US 2. Thomas M. Graber, and Robert L. Vanarsdall: Orthodontics current principles and techniques. Third edition. 2000 Mosby. 3. Athanasios E Athanasiou: Orthodontic Cephalometry. Mosby 1995 **Section B: Tissue Reaction** 1. Shroff B. Biology of Orthodontic Tooth Movement: Current Concepts and Applications in Orthodontic Practice 1st ed. Springer, 2016. 2. Kantarci A., Will L., Yen S. Tooth Movement. Karger. 2016. 3. Alikhani M. Clinical Guide to Accelerated Orthodontics with a Focus on Micro-Osteoperforations. Springer, 2017.
d) Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: A.Prof.Dr. Fouad El Sharaby
Head of Department: Prof. Dr. Yehya Mostafa
Date: 29 / 3 / 2016

Elective courses

University: Future University in Egypt.
Faculty: Faculty of Oral and Dental Medicine
Department*: oral medicine periodontology diagnosis and radiology*

Course Specification

1- Basic Information		
Course Title: Laser applications in dentistry	**Course Code:** 632	**Level:** 1st year master degree Elective course
Master degree in: elective course for all specialties	Credit Hours: 2 CH / Theoretical 0 CH / Practical:	
2- Aim of the course:	**1.** To demonstrate general understanding of laser use in dentistry **2.** To improve the health and wellbeing of patients through the proper use of laser technology. **3.** To overview the research and clinical aspects of the safe and effective uses of lasers in dentistry.	
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**		
a. Knowledge and understanding :	**1.** Identify the scientific and clinical principles of lasers in dentistry. **2.** Discuss basic concepts of laser physics and segmentation of wavelengths. **3.** Explain the nature of light, the light spectrum and laser wavelengths. **4.** Explain the basic elements of laser - tissue interaction. **5.** Become familiar with different types of laser used in dentistry **6.** Identify laser set up, delivery system and power settings, laser applications used in dental soft and hard tissue management.	

b. Intellectual Skills:	1- Make decisions regarding proper laser type, mode, watt, and frequency. 2- Predict the wide advantages of using laser in the dental office.
c. Professional and Practical Skills:	1- Use of lasers through hands-on clinical simulation. 2- Apply Laser in dental soft and hard tissue management. 3- integrate laser use in treatment successfully 4- Use laser safety and infection control in the dental practice.
d. General and transferable skills	1- Assess regularly one's knowledge and skills, and seek additional information to correct deficiencies and enhance performance. 2- Implement and monitor infection control and environmental safety programs according to current standards.

4- **Course Contents:**	• Introduction to the course • Differences between laser and visible light • Differences between laser and x ray
	• Laser physics and beam generation • General characters of laser beam
	• Lasers in dentistry: uses, advantages, and limitations
	• Different types and modes of laser
	• CO2 laser, Properties and advantages
	• Diode laser, Properties and advantages
	• Nd-YAG laser, Properties and advantages • Low level laser applications • Soft tissue laser procedures • Hard tissue laser procedures
	• Laser interaction with biological tissues
	• Photo-chemical interaction and its applications • biostimulation
	• Photo-thermal interaction and its applications
	• Photo-electrical interaction and its applications
	• Photo-mechanical interaction and its applications
	• Laser safety
5- **Teaching and Learning Methods**	Lectures by PPS presentations Open – discussion lectures Clinical training: • Demonstrations and videos • Case studies • Work sheets and surveys • Report back sessions
6- **Teaching and Learning Methods for special needs students**	

7- Student Assessment	
a) Assessment Methods	• continuous formative quizzes to assess knowledge and understanding • Group work to assess practical skills, team work, and presentation • Assignment to assess understanding skills • Final Written examination to assess knowledge and understanding.
b) Assessment Schedule	▪ Assessment 1: first midterm (written/week 5) ▪ Assessment 2: group presentation (pps /week 12) ▪ Assessment 3: second midterm (written/ week 10) ▪ Assessment 4: Final written (week 15)
c) Weighting of Assessment	Written Examination 100 %
8- List of References	
a) Course Notes	• Course notes available
b) Essential Books (Text Books)	• Dental Applications of Advanced Lasers 2004 Edition Jeffrey G. Manni
c) Recommended Books	• Atlas of Laser Applications in Dentistry Coluzzi DJ, Convissar RA. 2007
d) Scientific periodicals, bulletins, etc…..	• ALD academy of laser dentistry periodicals http://www.laserdentistry.org

Course Coordinator: prof. Gihan Omar
Head of Department: prof. Shahira Elashiry
Date: / 3 /2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department: general supplementary sciences

Course Specification

1- Basic Information		
Course Title: biochemistry	**Course Code: ٦٢٣**	**Level: first or second part**
Master degree in: Elective course for all specialities	***Credit Hours: Theoretical:…1 Practical:…2***	

2- Aim of the course:	**1) Explains the Chemistry and the metabolism of Biological Molecules.** **2) understand the chemical function of Biomolecules and highlights the importance of individual molecules inside the cell.** **3) understand the metabolic changes of different molecules inside the body.** **4) understand the basic principles of errors of metabolism and their reflection on the health of the individual.**
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**	
a) Knowledge and understanding :	**A1- Describe the structure and importance of carbohydrates, lipids, and proteins of medical importance.** **A2- Describe the metabolic pathways** **A3- Discuss the principles of metabolic pathways.** **A4- Point out the importance of vitamins.** **A5- Demonstrate the basic structure and functions of Immunoglobulins** **A6- Describe the basic principles of some metabolic errors** **A7- Discuss the basic principles of molecular Biology**

b) Intellectual Skills:	**b1- Differentiate between structures of carbohydrates, lipids and proteins.** **b2-Explain the importance of some molecular biology techniques** **b3-Explain the role of enzymes in regulation of chemical reactions in the body** **b4- Differentiate between metabolism in health and in disease** **b5- Explain the role of vitamin deficiency in development of some diseases**
c) Professional and Practical Skills:	**C1-Perform basic laboratory tests** **c2-Identify unknown carbohydrate solution** **c3- Identify unknown protein solution** **c4- Detect abnormal constituents of urine**
d) General and transferable skills	**d1-Work effectively in groups.** **d2- Exercise leadership when appropriate.** **d3-Act responsibly in personal and professional relationships.** **d4-Take responsibility for their own learning and continuing personal and professional development.** **d5-Act ethically and consistently with high moral standards in personal and public forums.**

4- Course Contents:

1	**Chemistry and Metabolism of Carbohydrates**
2	**Chemistry and Metabolism of Lipids**
3	**Chemistry and Metabolism of Proteins and Amino acids**
4	**Chemistry of Immunoglobulins**
5	**Chemistry of Nucleotides and Nucleic acids**
6	**Chemistry of Enzymes**
7	**Vitamins**
8	**Regulation of blood glucose level and Diabetes Mellitus**

5- Teaching and Learning Methods	• Lectures • Practical training • Small group discussion
6- Teaching and Learning Methods for special needs students	• Demonstration & instructive Lessons with regular checkup according to their special needs.
7- Student Assessment	
a) Assessment Methods	Written examination (short questions, multiple choice
b) Assessment Schedule	Final written at the end of the course
c) Weighting of Assessment	١٠٠ written exam

8- List of References	
a) Course Notes	
b) Essential Books (Text Books)	**Lippincott's illustrated Reviews: Biochemistry, 7th edition, 2014**
c) Recommended Books	**Harper's Illustrated Biochemistry 30th edition, 2015**
d) Scientific periodicals, bulletins, etc…..	

Course Coordinator: Dr. Nagwa Roshdy

Date: 3 /2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department: oral and maxillofacial surgery

Course Specification

1- Basic Information		
Course Title: medical emergency in dentistry	**Course Code: ٦٣٤**	**Level: first or second part**
Master degree in: Elective course for all specialities	*Credit Hours: Theoretical:…2 Practical:…0*	

2- Aim of the course:	**To make the candidates familiar with prevention and management of medical emergencies in dental clinic**
3- Intended Learning Outcomes of Course (ILO) : By the end of the course, post graduate student should be able to:	
a) Knowledge and understanding :	1- Summarize local anesthetic drugs. 2- Memorize Safe precautions for Dental Chair Anesthesia. 3- Define types of common medical emergencies in dentistry. 4- Identify Resuscitation Council's Guidelines 5- Recognize special demands for Pediatric medical emergencies. 6- Identify emergency drug kit and equipment, and the knowledge to properly use all items.
b) Intellectual Skills:	1- calculate Appropriate dosage of drug related emergencies 2- select patients susceptible to medical emergency

c) Professional and Practical Skills:	1- Manage Airway obstruction. 2- manage medical emergencies in dentistry. 3- Apply medical emergency drugs 4- Perform Basic life support maneuvers 5- Examine patients prior to treatment 6- Evaluate Laboratory investigations
d) General and transferable skills	1- Lead a team and work in a team 2- Manage time effectively

4- Course Contents:	• Pharmacology , dosages of emergency & local anesthetic drugs. • Differential diagnosis of Common medical emergencies in dental practice. • Simplified approach for preventing & treatment of medical emergencies • Ambulatory Dental Chair anesthesia. • Pediatric medical emergencies • Medicolegal aspect of medical emergencies in dental practice • Medical equipments needed in dental office • Basic life support maneuvers • Dental sedation and safety issues regarding sedation
5- Teaching and Learning Methods	Interactive lectures Discussion. Demonstrations. Brain storming. Role plays

6- Teaching and Learning Methods for special needs students	• Demonstration & instructive Lessons with regular checkup according to their special needs.
7- Student Assessment	
a) Assessment Methods	• Reflective Student Essays • Comprehensive quizzes • written Exam
b) Assessment Schedule	2nd week — **Presentation 1** 4 th week — **Assignment 1** 10 th week — **Presentation 2** 11 th week — **Assignment 2** Final exam — **Written exams**
c) Weighting of Assessment	١٠٠ written exam

8- List of References	
a) Course Notes	
b) Essential Books (Text Books)	**Elsevier** :Medical Emergencies in the Dental Office 7th Edition
c) Recommended Books	**Wiley:** Basic Guide to Medical Emergencies in the Dental Practice
d) Scientific periodicals, bulletins, etc…..	The American journal of emergency medicine The Journal of Emergency Medicine

Course Coordinator: Dr. Aktham Adel

Date: 3 /2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department: oral and maxillofacial surgery

Course Specification

1- Basic Information		
Course Title: implantology	**Course Code: ٦٢٩**	**Level: first or second part**
Master degree in: Elective course for all specialties	*Credit Hours: Theoretical: 1 Practical: 2*	

2- Aim of the course:	1) To educate the students about the basics of surgical, biological, prosthetic and periodontal considerations that should be followed during implantation. 2) To familiarize the student with different recent treatment modalities of varying difficulties. 3) To enable students to detect the causes of implant failure and their management. 4) To educate students about the care and maintenance aspect of the implant
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**	
a) Knowledge and understanding :	A1- identify the basics of diagnosis with the treatment planning of the badly broken and/or missing teeth for implantation. A2- Recognize the biological and periodontal aspects of the implant. A3- Identify the principles and types of luting cements A4- discuss treatment options for un-restorable and/or missing teeth.
b) Intellectual Skills:	B1- order the steps of implant preparation in order to fulfill biological and periodontal considerations B2- classify properly the parameters of implant success and failure.

c) Professional and Practical Skills:	C1-Practice the steps of diagnosis, treatment planning, surgical procedures, and follow up of implant cases. c2- Perform properly the steps of implantation taking into consideration the biological and periodontal aspects C3- Perform properly the different steps of prosthetic procedures .
d) General and transferable skills	D1- respect to all patients irrespective to their socioeconomic levels, cultures or religious beliefs D2- Implement infection control policies. D3- Life-long learning

4- Course Contents:	**Theory of Osseointegration** **Armamentarium and Types of implants** **Surgical Techniques** **Diagnosis of Peri-implant mucositis & Peri-implant implantitis** **Treatment of Peri-implant mucositis & Peri-implant implantitis** **Principles of implant location; prosthetic & anatomical considerations** **Prosthetic template; construction & uses** **Types of impression techniques in prosthetic implant dentistry** **Types of implant supported prosthesis** **Planning and follow up** **Radiographic assessment and 3D evaluation**
5- Teaching and Learning Methods	• Lectures • Small group discussion
6- Teaching and Learning Methods for special needs students	----------

7- Student Assessment	
a) Assessment Methods	Written examination (short questions, multiple choice)
b) Assessment Schedule	Final written at the end of the course
c) Weighting of Assessment	١٠٠ written exam

8- List of References	
a) Course Notes	
b) Essential Books (Text Books)	Contemporary implant dentistry, 3rd. ed., Carl Misch, 2007
c) Recommended Books	EUREKA R2: concept, principle, and clinical cases, 1st ed., 2015
d) Scientific periodicals, bulletins, etc…..	

Course Coordinator: Dr. Nelly Hamouda

Date: 3 /2016

Second part courses

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: Orthodontic Diagnosis 1	**Course Code: 719**	**Level: Part2, First Semester**
Content: Craniofacial Growth		
Master degree in: Orthodontics	**Credit Hours: 3, Theoretical:2 Practical:2**	
2- Aim of the course:	The course is designed to provide detailed information regarding the human craniofacial growth and development. It will cover the following topics. (1) The concepts of craniofacial growth and development. (2) The prenatal craniofacial period. (2) The postnatal period. (3) The development of dentition. (4) The application of craniofacial growth data in clinical orthodontics.	

3- Intended Learning Outcomes of Course (ILO) : By the end of the course, post graduate student should be able to:	
a) **Knowledge and understanding :**	6. Define the basic growth concepts (area relocation, appositional growth, displacement, remodeling, resorption, deposition, fusion) 7. Recall the growth and development of the main craniofacial components: cranial base, maxilla, and mandible, and their interrelationships at different stages of growth. 8. Identify the tissues involved in facial growth: bone, cartilage and muscle. 9. Underline the differences in facial form and patterns. 10. Review the major deformities of growth. 11. Express why and how knowledge of facial and somatic growth and development is critical to early treatment of malocclusion through prevention, interception, or early correction of interferences with normal development that lead to malocclusion.

b) Intellectual Skills:	The resident should: 1. Illustrate the basic tissues involved in craniofacial growth, particularly bone and cartilage. 2. Categorize the different locations and types of cartilage in the head. 3. Differentiate between the endochondral and intramembranous modes of bone formation, and the facial bones involved in each modality. 4. Debate the basic craniofacial growth concepts including area relocation, bone displacement, processes of appositional growth and depositional resorption, and issues of modeling, remodeling, and the V principle. 5. Demonstrate sites and mechanisms of growth of the cranial base, the influence of this growth on the position of the growing maxilla and mandible, and the factors that lead to anomalies of cranial growth. 6. Sketch the patterns and mechanisms of maxillary growth in all 3 planes of space, and the influence of sutural growth on maxillary development 7. Debate the various theories of growth, including Moss's functional matrix and related control processes of facial growth. 8. Question how craniofacial development translates at the level of the dentition and occlusion.
c) Professional and Practical Skills:	The students should be able to manage deviations from normal development that represent or may lead to facial deformities, including genetic components.

d) General and transferable skills	The students should be able to Evaluate the evidence behind the existing theories on facial growth.
4- Course Contents:	1. Basic concepts of growth and development. 2. Prenatal growth of the cranium, facial and oral structures 3. Mechanisms of craniofacial growth, cartilage, bone and muscles 4. Changing concepts and hypotheses of craniofacial growth. 5. Postnatal growth of the craniofacial complex. 6. Development of the dentition and occlusion and dental arch development. 7. Growth rotations, growth prediction and maturity indicators. 8. Maturational and aging changes. 9. Craniofacial anomalies and syndromes and pathology of the cranial base. 10.Clinical applications of craniofacial growth.
5. Teaching and Learning Methods	8. Lectures: aided by PowerPoint presentations 9. Problem based learning.
6. Teaching and Learning Methods for special needs students	None

7. Student Assessment	
a) Assessment Methods	12. Written Exam (MCQ, short answer questions) 13. Oral Exam
b) Assessment Schedule	1. Written Exam: Final 2. Oral Exam: Final
c) Weighting of Assessment	• Final Written exam: 90 marks • Final Term Oral exam: 60 marks including thee attendance and seminars and assignments which are 30 marks out of the 60
8. List of References	
a) Course Notes	None
b) Essential Books (Text Books)	1. William R. Proffit. Contemporary Orthodontics. Fifth Edition. 2012 Mosby 2. Graber. Current Principles and Techniques. Fifth Edition.2011 Mobsy
***8.* Recommended Books**	***1.*** ***Ranly DM.*** A synopsis of craniofacial growth. Appleton & Lange, 1988, 2nd edition.. ***2.*** ***Bishara S***. Text book of orthodontics. Saunders, 2001. ***3.*** ***Moyers RE***. Handbook of orthodontics. Year Book Medical Publishers, 1988. 4th edition. ***4.*** ***Enlow DH and Hans MG***. Essentials of facial growth. Saunders, 1996. ***5.*** ***Björk A***. Prediction of mandibular growth rotation. Am J Orthod. 1969;55:585-99. ***6.*** Postgraduate Notes in Orthodontics for M.Orth Programme. 7th Edition. University of Bristol ***7.*** **Laura Mitchell**. Introduction to Orthodontics. Fifth Edition. Jan,2013 Oxford University

9. Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals

Course Coordinator: Associate professor Dr. Fouad El Sharaby

Head of Department: Professor Dr. Yehya Mostafa

Date: 2 / 3/ 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title **Orthodontic Appliances 1**	**Course Code: 721**	**Level: Part 2, First Semester**
Content: Functional Appliances		
Master degree in: **Orthodontics**	**Credit Hours: 3, Theoretical:2 Practical:2**	

2- Aim of the course:	The graduates should be able to: 1. Apply analytical and clinical methods in the use of functional appliances and integrate it with relevant anatomic, etiologic & radiographical knowledge in his professional practice. 2. Know the accurate technique by which the functional appliances could be used in growing patients 3. Perform accurate diagnosis before the use of functional appliances 4. Acquire the knowledge regarding the use and time of intervention of functional appliances 5. Develop himself academically, clinically and to have the capability of self-learning and continuous education, by being up to date with the most recent researches published, attending conferences and courses.

3- Intended Learning Outcomes of Course (ILO) : By the end of the course, post graduate student should be able to:	
e) Knowledge and understanding :	1. Describe the theories and fundamentals related to functional appliances 2. Associate Mutual influence between cephalometric x-ray, etiology and diagnosis 3. Identify the scientific concept and the new techniques in the use of functional appliances
f) Intellectual Skills:	1. Analyze diagnostic findings to create an orthodontic problem list and treatment aims related to functional appliances 2. Apply principles and fundamentals of quality in diagnosis and treatment planning 3. Solve orthodontic problems related to skeletal discrepancies for Class II patients and growing patients. And defining the growth status 4. Conduct a proper orthodontic treatment plan and mechanics 5. Use analytical methodology in conducting research study, and/ or writing a methodical scientific study on a research problem related to functional appliances 6. Understand the pros and cons of using functional appliances 7. Plan in developing the design of functional appliances 8. Demonstrate the ability of talking professional decision regarding the type of appliance
g) Professional and Practical Skills:	1. Master basic skills and new advanced techniques in the use of functional appliances 2. Diagnose all types of skeletal and dental problems that could be solved by functional appliances 3. Demonstrate the most commonly used types of functional appliances 4. Present all collected diagnostic data and treatment plan in a PowerPoint presentation for instructor evaluation. 5. Carry out hands on the functional bite and the delivery and activation of functional appliances

h) General and transferable skills	1. Communicate effectively and diversely in multicultural work environment in verbal and non-verbal ways 2. Use information technologies towards functional appliances 3. Perform self-assessment in professional abilities, performance and progress, as well as determine the personal educational needs and effectively recognize and utilize all sources for continuing professional development and life–long learning. 4. Employ different sources to acquire information and knowledge. 5. Set up rules and performance indicators for assessment of the success of different functional appliances 6. Work in collaboration as a member of an interdisciplinary team and team leading in different professional contexts 7. Manage time effectively: by the use of new functional appliances 8. Self-learning by clinical practice on different cases. 9. Prioritize workload and manage personal stress in the framework of proper performance and management.

4- Course Contents:	1. Concept of therapy with functional appliances 2. Indications 3. Limitations and level of evidence 4. Functional bite 5. Different types of functional appliances 6. How to customize functional appliances to specific cases 7. Timing of intervention
5. Teaching and Learning Methods	• Lectures • Practical demonstrations and discussions. • Problem based learning.
6. Teaching and Learning Methods for special needs students	None
7. Student Assessment	
a) Assessment Methods	1. Written Exam (MCQ + essay questions) 2. Oral Exam (viva cards)

b) Assessment Schedule	1. Written Exam: Final 2. Oral Exam: Final
c) Weighting of Assessment	• Final written exam: 90 marks • Final Oral exam: 60 marks including thee attendance and seminars and assignments which are 30 marks out of the 60
8. List of References	
a) Course Notes	None
b) Essential Books (Text Books)	• William R. Proffit. Contemporary Orthodontics. Fifth Edition. 2012 Mosby • Laura Mitchell. Introduction to Orthodontics. Fifth Edition. Jan,2013 Oxford University
c) Recommended Books	• Graber. Current Principles and Techniques. Fifth Edition.2011 Mobsy • Postgraduate Notes in Orthodontics for M.Orth Programme. 7th Edition. University of Bristol • William J.Clark. Twin Block Functional Therapy. Third Edition. Jaypee Brothers Medical Publishers.2015
d) Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: Dr. Mostafa El Dawlatly
Head of Department: Prof. Yehya Mostafa
Date: 2 / 3 / 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: Orthodontic Complications 1	**Course Code: 723**	**Level: Part 2, first semester**
Content: • Mixed Dentition • Occlusion		
Master degree in: Orthodontics	**Credit Hours: 3, Theoretical:2 Practical:2**	

2- Aim of the course:	**Section 1: Mixed Dentition** 1. Recognize the objectives of mixed dentition treatment. 2. Describe special consideration during treatment. 3. Classify problems related to mixed dentition. 4. Determine the exact time of interference. 5. Manage cases of non skeletal problems in preadolescent children and determine the retention protocol. 6. Manage cases of skeletal problems in preadolescent children 7. Interrelate orthodontic treatment and Pediatric managements. **Section 2: Occlusion** 1- Recognize the development of normal occlusion 2- Describe the mechanics of mandibular movements. 3- Explain optimal joint position, static and functional occlusion. 4- Describe intra- and interarch alignment of the dentition. 5- Classify the different types of malocclusion. 6- Inter-relate orthodontic treatment with occlusion. 7- Manage cases of malocclusion through occlusal therapy.

3- Intended Learning Outcomes of Course (ILO) :

By the end of the course, post graduate student should be able to:

a) Knowledge and understanding :	**Section 1: Mixed Dentition** **1-** Recognize the objectives of mixed dentition treatment. **2-** Identify the time of interference. **3-** Understand the treatment and relate it with post-treatment relapse. **Section 2: Occlusion** **1-** Recognize the development of normal occlusion **2-** Describe alignment of the dentition both intra- and interarch. **3-** Relate the optimum temporo- mandibular joint position with the optimum static and functional occlusion.
b) Intellectual Skills:	**Section 1: Mixed Dentition** **1-** Correlate orthodontics with other dental and non-dental professions. **Section 2: Occlusion** **1-** Differentially diagnose the different categories of occlusal problems **2-** Integrate occlusal problems both in diagnosis, treatment planning and management of orthodontic problems

c) Professional and Practical Skills:	**Section 1: Mixed Dentition** 1- Carry out differential diagnosis of the mixed dentition malocclusion cases. 2- Evaluate problems both in diagnosis, treatment planning and management of mixed dentition problems. 3- Practice team work with other involved professions as pediatrics. **Section 2: Occlusion** 1- Integrate and team work with other involved professions as prosthodontics 2- Integrate orthodontics with other dental and non-dental professions.
d) General and transferable skills	Communicate with other healthcare professionals both verbally and in globally accepted written formats.

4- Course Contents:	**Section 1: Mixed Dentition** 1- Benefits of early treatment 2- Special consideration in early treatment. 3- Classification of clinical problems 4- Space related problems. 5- Eruption problems 6- Ectopic eruption. 7- Treatment of non skeletal problems in preadolescent children (Occlusal relationship problems). a- antroposterior problems b- Vertical problems. c- Lateral problems. 8- Treatment of skeletal problems in preadolescent children. 9- Combined vertical and antroposterior problems. **Section 2: Occlusion** 1. Development of normal occlusion 2. Mechanics of mandibular movements 3. Alignment of the dentition 4. Criteria for optimum occlusion. 5. Determinates of occlusal morphology. 6. Finishing to ideal occlusion 7. Occlusal therapy 8. Correlation between malocclusion and temporomandibular disorders (state of the evidence) 9. Correlation between malocclusion and caries 10. Correlation between malocclusion and periodontal disease

5-Teaching and Learning Methods	**Section 1: Mixed Dentition** • Lectures (one hour per week). • Practical demonstrations, case presentations and discussions • Problem based learning. **Section 2: Occlusion** • Lectures (one hour per week). • Practical demonstrations, case presentations and discussions • Problem based learning.
6-Teaching and Learning Methods for special needs students	None
7-Student Assessment	
a) Assessment Methods	1- Written Exam (MCQ, short answer questions) 2- Oral Exam
b) Assessment Schedule	1- Written Exam: Final 2- Oral Exam: Final
c) Weighting of Assessment	• Final written exam: 90 marks • Final oral exam: 60 marks including thee attendance and seminars and assignments which are 30 marks out of the 60

8-List of References	
a) Course Notes	None
b) Essential Books (Text Books)	**Section 1: Mixed Dentition** Proffit, W.R.: Contemporary Orthodontics, CV. Mosby Co., Louis, 2011. **Section 2: Occlusion** Jeffery P. Okeson: Management of temporomandibular disorders and occlusion. Second edition.1989 Mosby (Part I and IV).
c) Recommended Books	Thomas M. Graber, and Robert L. Vanarsdall: Orthodontics current principles and techniques. Third edition. 2000 Mosby.
d) Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: Prof. Mona Salah Fayed

Head of Department: Prof. Dr. Yehya Mostafa

Date: 2 / 3/ 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: Clinical Orthodontics 1	**Course Code: 725**	**Level: Part2, First Semester**
Master degree in: Orthodontics	**Credit Hours:m5, Theoretical:3 Practical:4**	

2- Aim of the course:	The aim of the course is to a- Give students clinical training on how to examine, document, plan and execute the appropriate steps for high quality treatment b- Train the students in banding and bonding of fixed appliances, bracket positioning, as well as bending and modifying orthodontic wires. c- Expose the students to various clinical topics and conditions (etiology, features and management) d- Train the student with the delivery of comprehensive orthodontic services and introduce the students to adult orthodontic treatment.
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**	
a) Knowledge and understanding :	1- Demonstrate orthodontic knowledge, facts and basic concepts of diagnosis and treatment planning. 2- Demonstrate knowledge in components of different types of orthodontic appliances 3- Describe different types of malocclusions and their treatment protocols. 4- Differentiate between different types of anomalies and manage them orthodontically 5- Understand different technical procedures for similar problems

b) Intellectual Skills:	1- Analyze diagnostic findings to create an orthodontic problem list and treatment aims for each case. 2- Distinguish the correct and most appropriate treatment approach for each malocclusion according to the diagnostic findings 3- Correlate between different knowledge in areas of orthodontics, to conduct a proper treatment plan. 4- Maintain proper filing system, keeping patient records, diagnosis and treatment plan. 5- Present diagnosis and treatment plans accurately and clearly in power point presentations
c) Professional and Practical Skills:	1- Demonstrate the ability of case documentation, through full orthodontic records, including extra & inta-oral photographs, impressions for orthodontic study models and different types of radiographs, with the capability of interpretate them. 2- Place orthodontic appliances with consistly high quality 3- Demonstrate ability of making clinical adjustments that consistenly reflect faculty instructions 4- Show genuine concern for wellbeing patients and practice orthodontics in full compliance with accepted standards of ethical behavior 5- Carry out all types of orthodontic mechanics on different orthodontic appliances through the initial phase of treatment, follow ups and retention.
d) General and transferable skills	Communicate with other healthcare professionals both verbally and in a globally accepted written formats. Manage time effectively

4- Course Contents:	1. Orthodontic Diagnosis revision 2. Malocclusions (Etiology-features& treatment approaches) a- Class I Malocclusion b- Class II Div 1 Malocclusion c- Class II Div 2 Malocclusion d- Class III Malocclusion e- Bimaxillary Alveolar Protrusion f- Anterior OpenBites & Deepbites g- High angle cases versus low angle cases h- Asymmetries 3. Anomalies (Etiology-features& treatment approaches) a- Hypodontia b- Impacted Canines c- Supernummeraries d- Transpositions 4. Treatment Planning 5. Case Documentation 6. Patient Managements Skills 7. Bracket Positioning and Band seating 8. Bonding of fixed appliances 9. Orthodontic Wires (Which, Why &when) 10. Wire Bending & Closing loops
5-Teaching and Learning Methods	• Lectures • Clinical demonstrations, case presentations and discussions • Problem based learning.
6-Teaching and Learning Methods for special needs students	None

7-Student Assessment	
a) Assessment Methods	3- Written exam (MCQ, short answer questions) 4- Oral Exam 5- Practical exam on documented case, where student is evaluated on: a- Diagnose the condition b- State the etiology c- Establish a problem list and treatment aims. d- Develop a treatment plan e- Wire Bending Sheets f- Bracket positing on a given study model
b) Assessment Schedule	1- Written Exam: Final 2- Oral Exam: Final 3- Practical Exam: Final
c) Weighting of Assessment	• Final written exam: 150 marks • Final oral exam: 50 marks • Final practical exam: 50 marks

8-List of References	
a) Course Notes	None
b) Essential Books (Text Books)	• William R. Proffit. Contemporary Orthodontics. Fifth Edition. 2012 Mosby • Laura Mitchell. Introduction to Orthodontics. Fifth Edition. Jan,2013 Oxford University • G.Snigh, Textbook of Orthodontics, Jaypee Brothers Medical Publishers (P) Ltd.; 2nd edition (December 31, 2007)
c) Recommended Books	• Graber. Current Principles and Techniques. Fifth Edition.2011 Mobsy • Postgraduate Notes in Orthodontics for M.Orth Programme. 7th Edition. University of Bristol
d) Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: ***Prof. Dr.Yehya Mostafa & Prof. Dr. Nagwa El Mangoury***

Head of Department: ***Prof. Dr.Yehya Mostafa***

Date: 2 / 3/ 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: Orthodontic Diagnosis 2	**Course Code: 720**	**Level: Part2, Second Semester**
Content: • Orthognathic Surgery • Cleft Lip and Palate		
Master degree in: Orthodontics	**Credit Hours: 3, Theoretical:2 Practical:2**	

2- Aim of the course:	Section1: Orthognathic Surgery 1- Planning for orthognathic surgery 2- Understand the role of orthodontist in Orthognathic cases 3- Distinguish when to plan for surgery and when to plan for camouflage treatment. 4- Define the surgical techniques Section2: Cleft Lip and Palate: This module is intended to provide information about and experience in: 1- To include the embryonic growth & development to understand the clefts. 2- To understand postnatal growth & development of CL&P patients. 3- To understand the Clefts: What & How. 4- To interpret the effect of muscle & muscle molding. 5- The role of Orthodontist. 6- To describe distraction osteogenesis. 7- To interrelate orthodontic treatment and orthognathic. 8- Timing of surgical treatment time of Cl&P patients.

3- Intended Learning Outcomes of Course (ILO) : By the end of the course, post graduate student should be able to:	
a) Knowledge and understanding :	**1.** Recognize the objectives of Orthognathic Surgery **2.** Understand the role of orthodontist in orthognathic surgery cases **3.** Identify the indication and contraindication of orthognathic surgery. **4.** Understand to relate treatment with postsurgical relapse
b) Intellectual Skills:	**Section 1: Orthognathic Surgery** 1. Evaluate the severity of the skeletal discrepancy, to decide what treatment approach to be done. (Camouflage or Orthognathic) 2. Distinguish different types of surgical approaches 3. Demonstrate awareness with the role of the orthodontist in Orthognathic cases. **Section 2: Cleft Lip & Palate** 1. Evaluate and interpret the nature of the problem, to decide what to do & when. 2. Demonstrate problems in cleft patients. 3. Plan orthognathic surgery in cleft patients 4. Evaluate problems related to repaired clefts 5. Correlate orthodontics with other dental and non-dental professions
c) Professional and Practical Skills:	**Section 1: Orthognathic Surgery.** 1. Plan and prepare the cases orthodontically for surgery 2. Carry out team work with the orthognathic surgeon for proper treatment planning and outcomes of these patients **Section 2: Cleft Lip & Palate** 3. Perform differential diagnosis of the cleft cases. 4. Solve problems both in diagnosis, treatment planning and management of cleft problems. 5. Carry out team work that is involved in the handling of these patients.
d) General and transferable skills	1. Communicate with other healthcare professionals both verbally and in a globally accepted written formats. 2. Use information technologies and softwares towards serving the orthognathic planning of cases.

4- Course Contents:	**Section 1: Orthognathic Surgery** 4.1- Introduction to severe skeletal discrepancy cases 4.2- Planning (Orthodontic treatment for Orthognathic Surgery) 4.3- When plan for surgery and when for camouflage treatment 4.4- Role of Orthodontist in Orthognathic Cases 4.5- Surgical Techniques 4.6- Problems: a- Surgical problems and risks b- Periodontal problems and risks associated in decompensation of incisors c- Stability problems **Section 2: Cleft Lip & Palate** 4.1- Craniofacial Growth: Prenatal & Postnatal. 4.2- Facial Defects. 4.3- Postnatal Growth & Development 4.4- Growth of the CLP Face. 4.5- Overview of the Cleft Factors. 4.6- Epidemiology of CL, CP, & CLP. 4.7- Prevalence of Clefts. 4.8- Classifications of CL&P. 4.9- Clefts What and How. 4.10- Muscle and Muscle Molding. 4.11- Diagnostic Consideration. 4.12- The Cleft Palate Team Approach. 4.13- Diagnosis – Determining the Nature of the Problem, to Decide What to Do & When. 4.14- Early Orthodontic Treatment in Complete Cleft- Presurgical & or Postsurgical? 4.15- Pre-Surgical Orthopedic Appliance; The Latham Appliance. 4.16- Presurgical Nasoalveolar Molding in Infants with CL&P. 4.17- Prosthetic Rehabilitation of the Cleft Palate Patient 4.18- Functional – Developmental Reasons for Early Orthodontic Treatment in Deciduous Dentition. 4.19- Orthodontic Therapy in the Transitional Dentition Stage of Development. 4.20- Maxillary Retrusion & Orthopedics – All Stages of Dental Development. 4.21- Secondary Esthetic Procedures. 4.22- Orthognathic Surgery in Cleft Patients. 4.23- Surgical Orthodontic Coordination. 4.24- Velopharyngeal Impairment in the Orthodontic Population. 4.25- Summary of the Best Timing of Surgical Treatment for CL & P Patients.

5-Teaching and Learning Methods	**Section 1: Orthognathic Surgery** • Lectures (one hour per week). • Practical demonstrations, case presentations, and discussions. • Problem based learning **Section 2: Cleft Lip & Palate** • Lectures (one hour per week). • Practical demonstrations, case presentations, and discussions. • Problem based learning.
6-Teaching and Learning Methods for special needs students	None
7-Student Assessment	
a) Assessment Methods	6- Written Exam (MCQ+ essay questions) 7- Oral Exam (viva cards)
b) Assessment Schedule	1- Written Exam: Final 2- Oral Exam: Final
c) Weighting of Assessment	• Final Term exam: 90 marks • Final Term Oral exam: 60 marks including thee attendance and seminars and assignments which are 30 marks out of the 60
8-List of References	
a) Course Notes	**Section 1: Orthognathic Surgery** Handouts given as hard copies to students **Section 2: Cleft Lip & Palate** None

b) Essential Books (Text Books)	**Section 1: Orthognathic Surgery** • William R. Proffit. Contemporary Orthodontics. Fifth Edition. 2012 Mosby **Section 2: Cleft Lip & Palate** • Mitchell L, Carter NE, and Doubleday. An introduction to orthodontics. 2nd edition: 2001: 218-225. • Subtelny J D. Early orthodontic treatment. Chapter 1; P. 209- 40. Quintessence, 2000. • Proffit WR, Fields HW. Contemporary orthodontics. Chapter 3 and 8, third edition. Mosby 2000.
c) Recommended Books	**Section 1: Orthognathic Surgery** • Laura Mitchell. Introduction to Orthodontics. Fifth Edition. Jan,2013 Oxford University • Postgraduate Notes in Orthodontics for M.Orth Programme. 7th Edition. University of Bristol **Section 2: Cleft Lip & Palate** • Berkovitz BKB, Holland GR, Moxham BJ. Oral anatomy, • Histology and embryology. Third edition, Mosby, 2002. • Bishara S. Textbook of orthodontics. Chapter 1,2, • WB Saunders Company, 2001.
d) Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: Prof. Dr. Essam Nassef & Prof.Dr. Mona Salah Fayed

Head of Department: Prof. Dr. Yehya Mostafa

Date: 2 / 3/ 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: Orthodontic Appliances 2	**Course Code: 722**	**Level: Part 2, second semester**
Content: Adult Orthodontics		
Master degree in: Orthodontics	**Credit Hours: 3, Theoretical: 2 Practical: 2**	

2- Aim of the course:	This module is intended to provide information about and experience in: 1. To understand appropriate time of intervention in potential orthodontic cases 2. To enable development and application of appropriate professional attitudes and communication. 3. Recognize the interrelationship between orthodontics and other dental specialties 4. Communicate with other healthcare professionals both verbally and in globally accepted written formats.

3- Intended Learning Outcomes of Course (ILO) : By the end of the course, post graduate student should be able to:	
a) Knowledge and understanding :	Recognize the interrelationship between orthodontics and other dental specialties
b) Intellectual Skills:	Correlate orthodontics with other dental and non-dental professions.
c) Professional and Practical Skills:	Team members practice problem solving beyond the confines of their discipline.
d) General and transferable skills	1. Communicate with other healthcare professionals both verbally and in a globally accepted written format. 2. Work in collaboration as a member of an interdisciplinary team and team leading in managing Adult Orthodontic cases 3. Prioritize workload and manage personal stress in the framework of proper performance and management. 4. Manage and motivate patients before and during the whole process of orthodontic treatment.

4- Course Contents:	**A- Adults :**Comprehensive and Adjunctive Orthodontic Treatment **B-Interdisciplinary (Multidisciplinary) Treatment** I- Orthodontic-Restorative patient II- Orthodontic-periodontic patient III- Ortho-Esthetics IV- Orthodontic-Medical
5- Teaching and Learning Methods	• Lectures (one hour per week). • Practical demonstrations, case presentations, and discussions. • Problem based learning.
6- Teaching and Learning Methods for special needs students	None
7- Student Assessment	
a) Assessment Methods	1. Written exam (MCQ + essay questions) 2. Oral exam (viva cards)
b) Assessment Schedule	1. Written Exam: Final 2. Oral Exam: Final
c) Weighting of Assessment	• Final written exam: 90 marks • Final Oral exam: 60 marks including thee attendance and seminars and assignments which are 30 marks out of the 60

8- List of References	
a) Course Notes	None
b) Essential Books (Text Books)	**Textbook Resources:** • William R. Proffit. Contemporary Orthodontics. Fifth Edition. 2012 Mosby • Graber. Current Principles and Techniques. Fifth Edition.2011 Mobsy
c) Recommended Books	• Laura Mitchell. Introduction to Orthodontics. Fifth Edition. Jan,2013 Oxford University • Vincent kockich. Interdisciplinary Treatment: Integrating Orthodontics with Periodontics, Endodontics and Restorative Dentistry. Seminars in Orthodontics
d) Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: Prof. Dr.Mona Salah Fayed

Head of Department: Prof. Dr. Yehya Mostafa

Date: 2 / 3/ 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: Orthodontic Complications 2	**Course Code: 724**	**Level: Part 2, second semester**
Content: • Retention & Relapse • TMJ Disorders		
Master degree in: Orthodontics	**Credit Hours: 3, Theoretical:2 Practical:2**	
2- Aim of the course:	Section 1: Retention & Relapse: 1- Understand the underlying causes of relapse 2- Differentiate between different types of retention methods 3- Recognize different types of orthodontic retainers 4- Interrelate orthodontic treatment with the type of retainer that should be used Section 2: TMJ Disorders: 1- Understand the functional anatomy and physiology of the masticatory system. 2- Differentially diagnose the different Temporomandibular disorders categories. 3- Classify temporomandibular disorders. 4- Manage different temporo-mandibular disorders. 5- Recognize the interrelationship between malocclusion and temporomandibular disorders. 6- Interrelate orthodontic treatment with temporomandibular disorders management.	

3- Intended Learning Outcomes of Course (ILO) :

By the end of the course, post graduate student should be able to:

a) Knowledge and understanding :	**Section 1: Retention & Relapse:** 1- Understand the etiology of relapse 2- Recognize different types of orthodontic retainers 3- Identify of the adjunctive methods of retention **Section 2: TMJ Disorders:** 1- Recognize the different components of the masticatory system; muscles of mastication, ligaments, temporo-mandibular joint parts. 2- Define temporomandibular disorders.
b) Intellectual Skills:	**Section 1: Retention & Relapse** 1- Correlate between the type of malocclusion corrected and the type of retainer needed. 2- Distinguish cases that need permanent retention **Section 2: TMJ Disorders** 1- Correlate the different signs and symptoms to their etiological factors. 2- Carry out differential diagnosis of different categories of temporo-mandibular disorders. 3- Evaluate the different categories of temporomandibular disorders.
c) Professional and Practical Skills:	**Section 1: Retention & Relapse** 1- Apply and manage different types of retainers and retention protocols 2- Manage relapsed cases **Section 2: TMJ Disorders** 1- Manage different categories of temporomandibular disorders. 2- Carry out team work with other involved professions as oral surgeons, psychotherapists, and physical therapists.
d) General and transferable skills	To communicate with other healthcare professionals both verbally and in a globally accepted written formats.

4- Course Contents:	**Section 1: Retention & Relapse** 1- Definition and methods & Length of retention 2- General considerations of Riedel in retention 3- Essential factors prior or during retention period 4- Factors that influence type & length of retention 5- Occlusal equilibration and its importance following orthodontic treatment 6- Growth considerations in stability of orthodontic treatment 7- Stability of Extraction and Non-extraction treatment 8- Stability of different types of corrected malocclusions 9- Criteria needed in order to be ready for retention 10- Types of Orthodontic retainers & adjunctive methods of retention 11- Etiology of relapse 12- Relapse of different treatment protocols **Section 2: TMJ Disorders** 1- Temporomandibular joint anatomy and function 2- Terminology and etiology of Temporomandibular disorders 3- Signs and Symptoms of TMD 4- Classification of TMD 5- Diagnosis of TMD 6- Management of TMD 7- Relationship between occlusion and TMD 8- Relationship between Orthodontics and TMD
5- Teaching and Learning Methods	• Lectures (two hours per week). • Practical demonstrations, case presentations, and discussions. • Problem based learning.
6- Teaching and Learning Methods for special needs students	None

7- Student Assessment	
a) Assessment Methods	8- Written exam (MCQ, short answer questions) 9- Oral Exam
b) Assessment Schedule	1- Written Exam: Final 2- Oral Exam: Final
c) Weighting of Assessment	• Final written exam: 90 marks • Final oral exam: 60 marks including thee attendance and seminars and assignments which are 30 marks out of the 60
8- List of References	
a) Course Notes	**Section 1: Retention & Relapse** Handouts given to the students **Section 2: TMJ Disorders** None
b) Essential Books (Text Books)	**Section 1: Retention & Relapse** • William R. Proffit. Contemporary Orthodontics. Fifth Edition. 2012 Mosby **Section 2: TMJ Disorders** • Okeson J. Management of Temporomandibular disorders and occlusion. Second edition. 1989 Mosby.
c) Recommended Books	• Graber. Current Principles and Techniques. Fifth Edition.2011 Mobsy • Postgraduate Notes in Orthodontics for M.Orth Programme. 7th Edition. University of Bristol
d) Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: Prof. Dr. Essam Nassef
Date: 2 / 3/ 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Orthodontics and pedodontics*

Course Specification

1- Basic Information		
Course Title: **Clinical Orthodontics 2**	**Course Code: 726**	**Level: Part 2, Second Semester**
Master degree in: **Orthodontics**	**Credit Hours: 5, Theoretical:3 Practical:4**	
2- Aim of the course:	The Aim of the course is to expose the students to various clinical situations and give the student a broader understanding in how to manage them.	
3- Intended Learning Outcomes of Course (ILO) : **By the end of the course, post graduate student should be able to:**		
a) Knowledge and understanding :	1. Recognize interceptive Orthodontics interventions. 2. Understand different treatment approaches in Orthodontics 3. Identify the risks associated with orthodontic treatment. 4. Understand Ethics in Orthodontics	
b) Intellectual Skills:	1. Distinguish the correct and most appropriate treatment approach for each malocclusion according to the diagnostic findings 2. Analyze patient condition to choose the most appropriate treatment approach 3. Distinguish the developing malocclusion and be able to intercept it with the correct orthodontic treatment approach 4. Analyze the risk benefit ratio in orthodontic treatment planning	
c) Professional and Practical Skills:	6- Interpret the correct treatment approach after assessing the patient orthodontically 7- Practice orthodontics in full compliance with accepted standards of ethical behavior	
d) General and transferable skills	Communicate with other healthcare professionals both verbally and in a globally accepted written formats	

4- Course Contents:	1- Interceptive Orthodontics a- What is meant by interceptive Orthodontics b- Correct timing for the intercepting a developing problem c- Management of early loss of primary teeth d- Early management of Crossbites e- Etiology, features and management Habits 2- Treatment a- Anchorage in Orthodontics b- Extraction vs non-extraction therapy c- Indications of extraction of specific teeth d- Head Gear e- Reverse Head Gear f- Alternative approaches for treatment without head gear (MSI) 3- Risks a- Iatrogenic / Deleterious effects of orthodontic treatment b- Intra-Oral Iatrogenic Damage c- Extra-Oral Iatrogenic Damage d- Systemic effects of treatment e- Trauma and Orthodontics f- Risk Benefit 4- Ethics in Orthodontics
5- Teaching and Learning Methods	• Lectures • Clinical demonstrations, case presentations and discussions • Problem based learning.
6- Teaching and Learning Methods for special needs students	None

7- Student Assessment	
a) Assessment Methods	10- Written exam (MCQ, short answer questions) 11- Oral Exam 12- Practical exam on documented cases, where student is obliged to: g- Diagnose the condition h- State the etiology i- Establish a problem list and treatment aims. j- Develop a treatment plan k- Defend and discuss the intervention and mechanics he chosen
b) Assessment Schedule	1- Written Exam: Final 2- Oral Exam: Final 3- Practical Exam: Final
c) Weighting of Assessment	• Final written exam: 150 marks • Final oral exam: 50 marks • Final practical exam: 50 marks
8- List of References	
a) Course Notes	None
b) Essential Books (Text Books)	• William R. Proffit. Contemporary Orthodontics. Fifth Edition. 2012 Mosby • Laura Mitchell. Introduction to Orthodontics. Fifth Edition. Jan,2013 Oxford University • G.Snigh, Textbook of Orthodontics, Jaypee Brothers Medical Publishers (P) Ltd.; 2nd edition (December 31, 2007)
c) Recommended Books	• Graber. Current Principles and Techniques. Fifth Edition.2011 Mobsy • Postgraduate Notes in Orthodontics for M.Orth Programme. 7th Edition. University of Bristol
d) Scientific periodicals, bulletins, etc…..	The latest evidence presented in the orthodontic literature, through searching the data bases and/or hand search in the orthodontic journals.

Course Coordinator: Prof.Dr.Nagwa El Mangoury

Head of Department: Prof.Dr.Yehya Mostafa

Date: 2 / 3/ 2016