University / Academy: Future University in Egypt
Faculty / Institute: Oral and Dental Medicine
Department: Endodontics

Program specification

(Academic year 2016/2017)

A. Basic information:

1. Program Name: master of Endodontics

2. Nature of the program: Single

3. Department responsible for the program: Conservative Dentistry Department

4. Departments sharing in the program:

- Oral biology and oral pathology department
- Conservative dentistry department
- Oral medicine periodontology diagnosis and radiology department
- Supplementary general science department

5. Program coordinator: Prof. Medhat Abdelrahman Kataia

6. Internal evaluator: Dr. Elsaid Abdel-Hafiz

7. External evaluator: Prof. Wael Hussien

8. Date of faculty approval of the specification: 21 / 3 / 2016

9. Date of approval of the program: 23 / 12 / 2013 (Ministry of higher education)

B. professional Information:

1. Overall aims of the program:

The graduate of master program of endodontics should be capable of:

1/1 mastering the application of the basics and methodologies of scientific research and the use of its various tools.

1/2 Apply the analytical approach in the field of endodontics

1/3 Applying surgical and non surgical endodontic knowledge treatment and integrate it with relevant knowledge in anatomical, histological and pathological dental practice aspects.

1/4 Mastering the classical and advanced technologies in endodontic procedures such as magnification methods (eye loops and surgical microscope)

1/5 Identifying and solving endodontic mishaps and complications and how to manage and improve skills of treatment.

1/6 Mastering an appropriate range of manual, rotary and microscopic professional skills, using appropriate technological means to serve professional practice in endodontics.

1/7 communicating with patients, dental auxillaries, other specialities and being able to lead teams.

1/8 Making decision in different medical and dental emergencies and manage patients with medical conditions in dental practice.

1/9 Utilizing and maintaining the available resources to achieve the highest possible level in endodontic treatment

1/10 improving the development of society and the preservation of the environment in the light of global and regional changes.

1/11 committing to the theories of endodontics in health care.

1/12 engaging to continuous education and self learning

2. intended learning outcomes of the program:

2/A Knowledge and understanding:

The endodontics master program graduates should be able to:

2. A.1 recognize the basic theories of endodontics.

2. A.2 identify the mutual influence between professional practice and its reflection on the environment.

2. A.3 recognize scientific developments in the diagnosis and management of pulp and periapical lesions and all aspect of endodontic treatment.

2. A.4 discuss principles and ethics of professional endodontic and dental practice.

2. A.5 recognize principles and basics of quality in professional practice.

2. A.6 discuss the basics and ethics of scientific research.

2/B intellectual skills:

By the end of the program the graduates should be capable of:

2. B.1 Analyze and evaluate the diagnostic information from different clinical and radiographic modalities in root canal therapy.

2. B.2 Solve problems related to root canal complexity with recent and diagnostic tools.

2. B.3 merge different endodontic knowledge to differentiate between different endodontic instrumentation techniques.

2. B.4 Conduct a research study and write a systemic scientific study on a research problem in root canal therapy.

2. B.5 Assess the risks in different retreatment modalities in endodontics.

2. B.6 Plan to improve endodontic impacts.

2. B.7 Make professional decisions in management of root canal mishaps and problems.

2/C practical and clinical Skills:

2. C.1 Solve and manage different endodontic problems.

2. C.2 Master basic and modern knowledge in surgical and non surgical root canal treatment.

2. C.3 Write and evaluate case reports for endodontic cases.

2. C.4 Evaluate different diagnostic, instrumentation and obturating methods and tools in endodontics.

2/D General and transferrable Skills:

2.D.1 communicate effectively with patient and dental auxiliaries.

2.D.2 Use of information technology to serve professional practice.

2.D.3 perform Self-assessment and identify personal learning needs.

2.D.4 Use of different sources for access to information and knowledge.

2.D.5 Develop rules and indicators for evaluating the performance of dental auxillaries.

2.D.6 Work in team, leading teams in different professional contexts.

2.D.7 mange time efficiently.

2.D.8 promote self-learning continuous education.

3. Program academic standards:

Academic standards of master degree program of Endodontics

- **Approved in department council: on 10/6/2015**
- **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 15 week x 2 : 1 year
- 2nd part: 2 semesters
- Thesis: minimum 1 year after completion of 1st part

B. Structure of the Program:

Number of credit hours: total 60 theoretical 26 practical and clinical 36

Compulsory selective 0 elective 4

Basic science courses: 26 credit hour 43.4 %

Specialization courses: 18 credit hour 30 %

Other Courses 4 credit hour 6.6 %

Thesis: 12 credit hour 20 %

C) Program levels

First part: Passage required 26 Unit distributed as follows:

Compulsory 26 credit hours Selective 0 elective 2 credit hours

Second part: Passing 18 Unit (distributed as follows:

Compulsory 18 credit hours Selective 0 elective 2 credit hours

Thesis 12 credit hours

Program Courses:

A- Compulsory courses:

1st part (1st. semester)

Course Code	Course Name	credit hour	Number of weekly hours		
			Practical		Theoretical
601	Oral pathology	3	2		2
603	Oral histology	3	2		2
615	Dental Materials	2	2		1
605	General anatomy	3	2		2
611	Diagnosis and radiology	2	2		1

1st part (2nd. semester)

Course Code	Course Name	credit hour	Number of weekly hours		
			Practical		Theoretical
602	Oral pathology	3	2		2
604	Oral histology	3	2		2
616	Dental Materials	2	2		1
606	General anatomy	3	2		2
612	Diagnosis and radiology	2	2		1

2nd part (1st. semester)

Course Code	Course Name	credit hour	Number of weekly hours		
			Clinical		Theoretical
757	Restorative Dentistry	2	2		1
765	Fixed Prosthodontics	2	2		1
767	Endodontics	5	4		3

2nd part (2nd. semester)

Course Code	Course Name	credit hour	Number of weekly hours		
			Clinical		Theoretical
758	Restorative Dentistry	2	2		1
766	Fixed Prosthodontics	2	2		1
768	Endodontics	5	4		3

B. Selective courses: 0

C. Elective courses:

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 years.

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 التخصص٠

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)٠

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)**	• **Report**	**Reports1-2**
External Evaluator **(s)**	• **Report**	**1-2 Reports**
Senior student **(s)**	• **Meetings and questionaries'**	**All students**
Alumni	• **Meetings and questionaries'**	**Sample not less than 50% from the graduates of the last 3 patches**
Stakeholder **(s)**	• **Meetings and questionaries'**	**Sample representative to all work specialties**

11- Teaching and learning strategies:

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

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

ملحق ١: program Academic standard

Academic Reference Standards (ARS)

for

Endodontics

MS. Program

Faculty of Oral and dental medicine

Future University

Academic Reference Standards (ARS) for master Program of Endodontics

The Attributes of master Program of Endodonics Graduates:

The graduates of master Program of endodontics, should be able to:

1.1. Master the application of the basics and methodologies of scientific research and the use of its various tools.
1.2. Apply of the diagnostic modalities and its use in endodontics.
1.3. Apply endodontic knowledge and integrate it with relevant knowledge in dental practice.
1.4. Master the Classical and advanced issues in endodontic procedures.
1.5. Identify and solve endodonic problems and how to manage and improve skills of treatment.
1.6. Master an appropriate range of specialized professional skills, using appropriate technological means to serve his professional practice in endodontics.
1.7. Communicate effectively and be able to lead teams.
1.8. Make decision in different medical emergencies in dental practice.
1.9. Utilize and maintain the available resources to achieve the highest utilization and to aid in the development of a well-rounded and capable oral and maxillofacial surgeon with a strong background in dental protocol and the care of the hospitalized patient.
1.10. Show awareness of its role in the development of society and the preservation of the environment in the light of global and regional changes.
1.11. Conduct to reflect the commitment to integrity, credibility and adherence to the rules of endodontics in health care.
1.12. Improve academic and clinical skills to be able to engage with continuous education.

1. General Reference Standards:

A. Knowledge and Understanding

By the end of the program, the endodontic master graduates should be able to:

A.1. Discuss theories and fundamentals related to endodontics as well as related basic sciences.

A.2. Recognize the mutual influence between professional practice and its reflection on the environment.

A.3. Summarize scientific developments in the diagnosis and management of endodontic disorders.

A.4. Enumerate ethical and legal principles of professional practice in endodontics and dental practice.

A.5. Discuss the principles and basics of quality in professional practice in endodontics.

A.6. State the basics and ethics of scientific research**.**

B. Intellectual Skills

By the end of the program, the endodontic master graduates should be able to:

B.1. Analyze information and measurement from different diagnostic modalities in endodonics for problem solving.
B.2. Solve specialized problems with insufficient recent and diagnostic tools.
B.3. Link different knowledge to differentiate between different modalities.
B.4. Conduct a research study and / or write a systematic scientific study on a research problem.
B.5. Assess risks in different treatment modalities in endodontics.
B.6. Plan for the development of performance in endodontics.
B.7. Make professional decisions in management of endodontic problems.

C. Practical and Professional Skills

By the end of the program, the endodontic master graduates should be able to:

C.1. Master basic and modern professional skills in management of different endodontic problems.
C.2. Write and evaluate professional reports and prescriptions.
C.3. Evaluate of existing methods and tools in endodontics.

D. General and Transferable Skills

By the end of the program, the endodontic master graduates should be able to:

D.1. communicate with patients, dental auxiliaries
D.2. Use information technology to serve professional practice.
D.3. identify personal learning needs and how to make self-assessment
D.4. Use of different sources for access to information and knowledge.
D.5. Develop rules and indicators for evaluating the performance of dental auxiliaries.
D.6. Working in a team, leading teams in different professional contexts
D.7. manage Time efficiently
D.8. appreciate Self-learning continuous education.

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 واستخدامأدواته 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 النظرياتوالأساسيات 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 الماجستيريجب 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 الماجستيريجب أن يكون الخريج قادرا على:

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

٢,٣,٢ كتابة و تقييمالتقارير المهنية.

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

٢. ٤ المهارات العامة والمنتقلة :

بانتهاء دراسة برنامج الماجستيريجب 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.

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مواصفات الخريج بالمعايير الأكاديمية لبرنامج الدراسات العليا لعلاج الجذور Graduate attributes of the endodontic program	مواصفات الخريج بالمعايير القياسية العامة لبرامج الدراسات العليا(درجة الماجستير) الهيئةARS
1/1 Master the application of the basics and methodologies of scientific research and the use of its various tools	١,١ إجادة تطبيق أساسيات ومنهجيات البحث العلمي واستخدام أدواته المختلفة.
1/2 Apply the analytical approach in the field of endodontics	٢,١ تطبيق المنهج التحليلي واستخدامه في مجال التخصص.
1/3 Apply specialized endodontic knowledge and integrate it with relevant knowledge in dental practice	٣,١ تطبيق المعارف المتخصصة ودمجها مع المعارف ذات العلاقة في ممارسته المهنية.
1/4 Master the classical and advanced issues in endodontic procedures	٤,١ إظهار وعيا بالمشاكل الجارية والرؤى الحديثة في مجال التخصص.
1/5 Identify and solve endodontic problems and how to manage and improve skills of treatment	٥,١ تحديد المشكلات المهنية و إيجاد حلولا لها.
1/6 Master an appropriate range of specialized professional skills, using appropriate technological means to serve his professional practice in endodontics.	٦,١ إتقان نطاق مناسب من المهارات المهنية المتخصصة، واستخدام الوسائل التكنولوجية المناسبة بما يخدم ممارسته المهنية.
1/7 Communicate effectively and be able to lead teams.	٧,١ التواصل بفاعلية والقدرة على قيادة فرق العمل.
1/8 Make decision in different endodontic and medical emergencies in dental practice.	٨,١ اتخاذ القرار في سياقات مهنية مختلفة.

1/9 Utilize and maintain the available resources to achieve the highest utilization and to aid in development of a well-rounded and capable endodontic with a strong background in dental protocol and the care of the hospitalized patient	٩,١ توظيف الموارد المتاحة بما يحقق أعلي استفادة والحفاظ عليها.
1/10 Show awareness of its role in the development of society and the preservation of the environment in the light of global and regional changes	١٠,١ إظهار الوعي بدوره في تنمية المجتمع والحفاظ على البيئة في ضوء المتغيرات العالمية والإقليمية.
1/11 Conduct to reflect the commitment to integrity, credibility and adherence to the rules of endodontics in health care.	١١,١ التصرف بما يعكس الالتزام بالنزاهة والمصداقية والالتزام بقواعد المهنة.
1/12 Improve academic and clinical skills to be able to engage with continuous education.	١٢,١ تنمية ذاته أكاديميا ومهنيا وقادرا علي التعلم المستمر.

أ ـ المعرفة والفهم:

المعايير الأكاديمية للبرنامج The endodontic master program graduates should demonstrate knowledge and understanding of:	المعايير القياسية العامة (Generic) لبرامج الدراسات العليا (درجة الماجستير)
2. A.1 discuss The theories and fundamentals related to endodontics as well as related basic sciences.	١,١,٢ النظريات والأساسيات المتعلقة بمجال التعلم وكذا في المجالات ذات العلاقة.
2. A.2 recognize The mutual influence between professional practice and its reflection on the environment.	٢,١,٢ التأثير المتبادل بين الممارسة المهنية وانعكاسها علي البيئة.
2. A.3 Summerize scientific developments in the diagnosis and management of endodontic cases.	٣,١,٢ التطورات العلمية في مجال التخصص.
2. A.4enumerate ethical and legal principles of professional practice in endodontics and	٤,١,٢ المبادئ الأخلاقية والقانونية للممارسة المهنية في مجال التخصص.

dental practice.	
2. A.5 discuss principles and basics of quality in professional practice in endodontics	٢,١,٥ مبادئ وأساسيات الجودة في الممارسة المهنية في مجال التخصص.
2. A.6 state The basics and ethics of scientific research.	٢,١,٦ أساسيات وأخلاقيات البحث العلمي.

ب - المهارات الذهنية :

المعايير الأكاديمية للبرنامج **By the end of the program the endodontic master degree graduates should be able to:**	المعايير القياسية العامة **(Generic) لبرامج الدراسات العليا (درجة الماجستير)**
2. B.1 Analyze information and measurement from different diagnostic modalities in endodontics for problem solving	٢,٢,١ تحليل وتقييم المعلومات في مجال التخصص والقياس عليها لحل المشاكل.
2. B.2 Solve specialized problems with insufficient recent and diagnostic tools.	٢,٢,٢ حل المشاكل المتخصصة مع عدم توافر بعض المعطيات.
2. B.3 link different knowledge from different specialties to solve endodontic problems.	٢,٢,٣ الربط بين المعارف المختلفة لحل المشاكل المهنية.
2. B.4 Conduct a research study and / or write a systematic scientific study on a research problem	٢,٢,٤ إجراء دراسة بحثية و/أو كتابة دراسة علمية منهجية حول مشكلة بحثية.
2. B.5 assess of risks in different treatment modalities in endodontics	٢,٢,٥ تقييم المخاطر في الممارسات المهنية في مجال التخصص.
2. B.6 plan for the development of performance endodontics	٢,٢,٦ التخطيط لتطوير الأداء في مجال التخصص.
2. B.7 Make professional decisions in management of endodontic problems	٢,٢,٧ اتخاذ القرارات المهنية في سياقات مهنية متنوعة.

ج. مهارات مهنية وعملية :

المعايير الأكاديمية للبرنامج	المعايير القياسية العامة (Generic) لبرامج الدراسات العليا (درجة الماجستير)
2. C.1 Master basic and modern professional skills in management of different endodontic problems	١,٣,٢ إتقان المهارات المهنية الأساسية والحديثة في مجال التخصص.
2. C.3 Write and evaluating professional reports and prescriptions	٢,٣,٢ كتابة و تقييم التقارير المهنية.
2. C.4 Evaluate of existing methods and tools in endodontics	٣,٣,٢ تقييم الطرق والأدوات القائمة في مجال التخصص.

د . مهارات عامة و منتقلة :

المعايير الأكاديمية للبرنامج **By the end of the program in endodontics master degree graduates should be able to:**	المعايير القياسية العامة (Generic) لبرامج الدراسات العليا (درجة الماجستير)
2. D.1 communicate with patients and dental auxiliaries.	١,٤,٢ التواصل الفعال بأنواعه المختلفة.
2. D.2 Use information technology to serve professional practice.	٢,٤,٢ استخدام تكنولوجيا المعلومات بما يخدم الممارسة المهنية.
2.D.3 identify personal learning needs and how to make self-assessment	٣,٤,٢ التقييم الذاتي وتحديد احتياجاته التعلمية الشخصية.
2.D.4 Use of different sources for access to information and knowledge.	٤,٤,٢ استخدام المصادر المختلفة للحصول على المعلومات والمعارف.

2.D.5 Develop rules and indicators for evaluating the performance of dental auxiliaries.	٢,٤,٥ وضع قواعد ومؤشرات تقييم أداء الآخرين.
2.D.6 Work in team, leading teams in different professional contexts.	٢,٤,٦ العمل في فريق، وقيادة فرق في سياقات مهنية مختلفة.
2.D.7 manage Time efficiently.	٢,٤,٧ إدارة الوقت بكفاءة.
2.D.8 appreciate Self-learning continuous education.	٢,٤,٨ التعلم الذاتي والمستمر.

ملحق ٤: مصفوفة البرنامج مع المعايير الأكاديمية للبرنامج.

Over all Aims of the program أهداف البرنامج	مواصفات الخريج للمعايير الأكاديمية للبرنامج (ARS)
1/1 mastering the application of the basics and methodologies of scientific research and the use of its various tools.	1.1 Master the application of the basics and methodologies of scientific research and the use of its various tools
1/2 Apply the analytical approach in the field of endodontics	1.2 Apply the analytical approach in the field of endodontics
1/3 Applying surgical and non surgical endodontic knowledge treatment and integrate it with relevant knowledge in anatomical, histological and pathological dental practice aspects.	1.3 Apply endodontic knowledge and integrate it with relevant knowledge in dental practice
1/4 Mastering the classical and advanced technologies in endodontic procedures.	1.4 Master the classical and advanced issues in endodontic procedures
1/5 Identifying and solving endodontic mishaps and complications and how to manage and improve skills of treatment.	1.5 Identify and solve endodontic problems and how to manage and improve skills of treatment
1/6 Mastering an appropriate range of manual, rotary and microscopic professional skills, using appropriate technological means to serve professional practice in endodontics.	1.6 Master an appropriate range of specialized professional skills, using appropriate technological means to serve his professional practice in endodontics.
1/7 communicating with patients, dental auxiliaries, other specialties and being able to lead teams.	1.7 Communicate effectively and be able to lead teams.
1/8 Making decision in different medical and dental emergencies and manage patients with medical conditions in dental practice.	1.8 Make decision in different medical emergencies in dental practice.
1/9 Utilizing and maintaining the available resources to achieve the highest possible level in endodontic treatment	1.9 Utilize and maintain the available resources to achieve the highest utilization and to aid in development of a well-rounded and capable endodontic with a strong background in dental protocol and the care of the hospitalized patient
1/10 improving the development of society and	1.10 Show awareness of its role in the development

the preservation of the environment in the light of global and regional changes.	of society and the preservation of the environment in the light of global and regional changes
1/11 committing to the theories of endodontics in health care.	1.11 to reflect the commitment to integrity, credibility and adherence to the rules of endodontics in health care.
1/12 engaging to continuous education and self learning	1.12 Improve academic and clinical skills to be able to engage with continuous education.

نواتج تعلم البرنامج Knowledge & understanding												Knowledge & understanding المعايير الأكاديمية البرنامج ARS
المعرفه و الفهم												
						2.a.6	2.a.5	2.a.4	2.a.3	2.a.2.	2.a.1.	
						√		√	√		√	2.1.1. the theories and fundamentals related to endodontics as well as related basic sciences.
										√		2.1.2. the mutual influence between professional practice and its reflection on the environment
									√			2.1.3. scientific developments in the diagnosis and management of endodontic disorders
								√				2.1.4.ethical and legal principles of professional practice in endodontics and dental practice
							√					2.1.5. principles and basics of quality in professional practice in endodontics
						٧						2.1.6. the basics and ethics of scientific research

نواتج تعلم البرنامج											المعايير الأكاديمية للبرنامج
Intellectual skills											المهارات الذهنية
				2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2.	2.b.1.	البرنامج ARS
										√	2.2.1. *analysis, evaluation of information and measurement from different diagnostic modalities in endodontics for problem solving.*
									√		2.2.2. solving specialized problems with insufficient recent and diagnostic tools
								√			2.2.3. linking different knowledge to differentiate between different modalities
							√				2.2.4.conduct a research study and/ or write a systematic in endodontics
						√					2.2.5.. assessment risks in different treatment modalities in endodontics
					√						2.2.6. planning for the development of performance endodontics
				√							2.2.7. making professional decisions in management of endodontic problems

المعايير الأكاديمية للبرنامج المهارات المهنية البرنامج ARS	نواتج تعلم البرنامج Practical/Professional skills											
	2.c.1.	2.c.2.	2.c.3									
2.3.1. mastering basic and modern professional skills in management of different problems	√											
2.3.2. writing and evaluating professional reports and prescriptions		√										
2.2.3.evaluation of existing methods and tools in endodontics			√									

المعايير الأكاديمية للبرنامج المهارات العامة والمنتقلة البرنامج ARS	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				
By the end of Master program, candidate should accept the following skills: 2.4.1.effecive communication with patients and dental auxiliaries	√											
2.4.2. use of information technology to serve professional practice		√										
2.4.3.. self-assessment and identification of personal learning needs			√									
2.4.4. use of different sources for access to information and knowledge				√								

							√					2.4.5.develop rules and indicators for evaluating the performance of dental auxiliaries
						√						2.4.6.working in a team, leading teams in different professional contexts
					√							2.4.7..time management efficiently
				√								2.4.8.. self-learning and continuous education

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 mastering the application of the basics and methodologies of scientific research and the use of its various tools						√						
1/2 Applying diagnostic clinical and radiographic modalities in endodontics.			√									
1/3 Applying surgical and non surgical endodontic knowledge treatment and integrate it with relevant knowledge in anatomical, histological and pathological dental practice aspects.					√							
1/4 Mastering the classical and advanced technologies in endodontic procedures.					√							
1/5 Identifying and solving endodontic mishaps and complications and how to manage and improve skills of treatment.	√											
1/6 Mastering an appropriate range of manual, rotary and microscopic professional skills, using appropriate technological means to serve professional practice in endodontics.				√								
1/7 communicating with patients, dental auxillaries, other specialities and being able to lead teams.				√								

										√		1/8 Making decision in different medical and dental emergencies and manage patients with medical conditions in dental practice.
							√					1/9 Utilizing and maintaining the available resources to achieve the highest possible level in endodontic treatment
										√		1/10 improving the development of society and the preservation of the environment in the light of global and regional changes.
											√	1/11 committing to the theories of endodontics in health care.
								√				1/12 engaging to continuous education and self learning

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 mastering the application of the basics and methodologies of scientific research and the use of its various tools
									√	√	1/2 Applying diagnostic clinical and radiographic modalities in endodontics.
				√		√					1/3 Applying surgical and non surgical endodontic knowledge treatment and integrate it with relevant knowledge in anatomical, histological and pathological dental practice aspects.
					√						1/4 Mastering the classical and advanced technologies in endodontic procedures.
				√							1/5 Identifying and solving endodontic mishaps and complications and how to manage and improve skills of treatment.
								√			1/6 Mastering an appropriate range of manual, rotary and microscopic professional skills, using appropriate technological means to serve professional practice in endodontics.
					√						1/7 communicating with patients, dental auxillaries, other specialities and being able to lead teams.
								√			1/8 Making decision in different medical and dental emergencies and manage patients with medical conditions in dental practice.

					√						1/9 Utilizing and maintaining the available resources to achieve the highest possible level in endodontic treatment
							√				1/10 improving the development of society and the preservation of the environment in the light of global and regional changes.
					√						1/11 committing to the theories of endodontics in health care.
							√				1/12 engaging to continuous education and self learning

نواتج تعلم البرنامج											Program aims
Practical/Professional skills											
								2.c.4	2.c.3	2.c.2.	2.c.1.	
								√				1/1 mastering the application of the basics and methodologies of scientific research and the use of its various tools
									√	√	√	1/2 Applying diagnostic clinical and radiographic modalities in endodontics.
										√	√	1/3 Applying surgical and non surgical endodontic knowledge treatment and integrate it with relevant knowledge in anatomical, histological and pathological dental practice aspects.

										√	√	1/4 Mastering the classical and advanced technologies in endodontic procedures.
								√		√	√	1/5 Identifying and solving endodontic mishaps and complications and how to manage and improve skills of treatment.
								√		√	√	1/6 Mastering an appropriate range of manual, rotary and microscopic professional skills, using appropriate technological means to serve professional practice in endodontics.
									√	√		1/7 communicating with patients, dental auxillaries, other specialities and being able to lead teams.
									√		√	1/8 Making decision in different medical and dental emergencies and manage patients with medical conditions in dental practice.
										√		1/9 Utilizing and maintaining the available resources to achieve the highest possible level in endodontic treatment
										√		1/10 improving the development of society and the preservation of the environment in the light of global and regional changes.
										√		1/11 committing to the theories of endodontics in health care.
								√				1/12 engaging to continuous education and self learning

نواتج تعلم البرنامج										Program aims
General and transferable skill										
				2.d.8	2.d.7	2.d.6	2.d.5	2.d.4	2.d.3	2.d.2.	2.d.1.	
								√			√	1/1 mastering the application of the basics and methodologies of scientific research and the use of its various tools

										√	√	1/2 Applying diagnostic clinical and radiographic modalities in endodontics.
					√	√					√	1/3 Applying surgical and non surgical endodontic knowledge treatment and integrate it with relevant knowledge in anatomical, histological and pathological dental practice aspects.
				√	√						√	1/4 Mastering the classical and advanced technologies in endodontic procedures.
								√		√	√	1/5 Identifying and solving endodontic mishaps and complications and how to manage and improve skills of treatment.
										√	√	1/6 Mastering an appropriate range of manual, rotary and microscopic professional skills, using appropriate technological means to serve professional practice in endodontics.
											√	1/7 communicating with patients, dental auxillaries, other specialities and being able to lead teams.
										√	√	1/8 Making decision in different medical and dental emergencies and manage patients with medical conditions in dental practice.
								√				1/9 Utilizing and maintaining the available resources to achieve the highest possible level in endodontic treatment
						√						1/10 improving the development of society and the preservation of the environment in the light of global and regional changes.
								√				1/11 committing to the theories of endodontics in health care.
				√								1/12 engaging to continuous education and self learning

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

Program ILOS										codes	
Knowledge & Understanding المعارف											
				2.a.6	2.a.5	2.a.4	2.a.3	2.a.2	2.a.1	All Courses	
									√	601	Oral pathology
									√	603	Oral histology
									√	615	Dental Materials
									√	605	General anatomy
							√		√	611	Diagnosis and radiology
					√		√		√	757	Restorative Dentistry
					√		√	√	√	765	Fixed Prosthodontics
				√	√	√	√	√	√	767	Endodontics

Program ILOS								codes	
Intellectual Skills مهارات ذهنية									
2.b.8.	2.b.7	2.b.6	2.b.5	2.b.4	2.b.3	2.b.2	2.b.1	All Courses	
							√	601	Oral pathology
							√	603	Oral histology
					√	√	√	615	Dental Materials
							√	605	General anatomy
					√		√	611	Diagnosis and radiology
	√		√		√		√	757	Restorative Dentistry
	√							765	Fixed Prosthodontics

	√		√	√	√	√	√	767	Endodontics

Program ILOS								Codes / All Courses	
Practical & Clinical Skills مهارات عملية و مهنية									
		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
					√				615 Dental Materials
								√	605 General anatomy
					√	√	√	√	611 Diagnosis and radiology
					√	√	√	√	757 Restorative Dentistry
					√	√	√	√	765 Fixed Prosthodontics
					√	√	√	√	767 Endodontics

Program ILOS								codes / All Courses	
General and transferable مهارات عامة									
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
√	√	√	√	√	√	√		615	Dental Materials
√	√	√	√	√	√	√	√	605	General anatomy
√	√	√	√	√	√	√	√	611	Diagnosis and radiology
√	√	√	√	√	√	√	√	757	Restorative Dentistry
√	√	√	√	√	√	√	√	765	Fixed Prosthodontics
√	√	√	√	√	√	√	√	767	Endodontics

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	**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 /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*: 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*: 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*** ***0CH / 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: Conservative Dentistry.

Course Specification

• **Basic Information**		
Course Title: Operative Dentistry 1	**Course Code:757**	**Level: second part (first semester)**
Master degree in: **Fixed prosthodontics** **Endodontics**	**Credit Hours: Theoretical: 2** **Practical: 2**	

• **Aim of the course:**	To enable the post-graduate student to: 1. Recognize patient management during and after the treatment. 2. Enable the student to understand and apply the basic and recent clinical principles of operative dentistry that constitute the main demands of the daily practice. 3. Educate the students about the basics of fundamental principles and new concepts of cavity preparation. 4. Be familiar with different available types of restorative materials and their selection 5. Understand the complexity of the intraoral environment and its interaction with hard dental tissues and restorative materials.
• **Intended Learning Outcomes of Course (ILO):** **By the end of the course, post graduate student should be able to:**	
• **Knowledge and understanding :**	a.1. Discuss the processes of patient assessment, examination, diagnosis, and treatment planning. a.2. Describe fundamentals of cavity preparation and explain established principles and recent concepts.

	a.3. Identify the different uses of restorative materials both direct (amalgam, composite, and glass ionomer) and indirect. a.4. Identify the importance of marginal adaptation and microleakage of dental restorations.
• **Intellectual Skills:**	b.1. Explain the effect of oral cavity environment on different dental restorations' interface with hard tooth structure. b.2. Assess the patients complaint for proper diagnosis and select suitable treatment plan accordingly. b.3. Compare established principles and new concepts of cavity preparation. b.4. Categorize the suitable restorative materials according to the patient's needs. b.4. Assess the effect of the oral environment on the selected dental restoration. b.5. Interpret errors effecting the adaptation of the dental restoration leading to microleakage. b.6. Judge failure of the restoration and evaluate the retreatment options of repairing or replacing. b.7. Select the best way to manage failure whether by repairing or replacing the failed dental restoration.
• **Professional andPractical Skills:**	c.1. Perform proper examination of patient and design a treatment plan model. c.2. Apply the general principles of cavity preparations according to the cavity class. c.3. Perform the different technical steps for restorative material manipulation. c.4. Use the appropriate restorative material that suits the oral environment. c.5. Create well-adapted restoration margin to avoid microleakage and failure of dental restoration.
• **General and transferable skills**	d.1. Implement infection control policies and maintain other international professional standards for health care providers. d.2. Apply ethical and moral principles and practices to professional holistic treatment of patients as a person not just a cluster of symptoms, providing quality care to individuals and the community. d.3. Recognize the value and role of life-long learning, self-assessment, and critical thinking in maintaining competency.

	d.4. Evaluate personal progress and be able to assess ones weakness and strengths. d.5. Recognize the Egyptian healthcare system and the community based resources and services available and to be able to utilize them to provide high quality care to the patient and to community.

• **Course Contents:**	• Patient assessment, examination, diagnosis and treatment planning.
	• Principles of Cavity preparation: both established and recent concepts.
	• Restorative materials:
	  • Amalgam.
	  • Resin Composite
	  • glass ionomer
	  • Indirect restorations.
	• Oral environment.
	• Adaptation and microleakage of dental restorations.
	• Failure, repair and replacement of dental restorations.

• **Teaching and Learning Methods**	4-1. Interactive lectures with discussions 4-2. Self-study, seminars, presentations, and online material. 4-3. Tutorial classes: • Small Group teaching • Computer projects • Projector slides. 4-4. Clinical skills: practicing to imitate and to manipulate the desired clinical cases within the scheduled time as well as case studies and problem solving.
• **Teaching and Learning Methods for special needs students**	Hands on learning. Individual teaching.

• **Student Assessment**	
• **Assessment Methods**	a.1. Written examination to assess knowledge, understanding, and intellectual skills. a.2. Oral examination to assess knowledge, understanding,and intellectual skills. a.3. Log book practical requirements to be finished on the scheduled time to assess practical and general skills. a.4. Seminar presentations to assess knowledge and understanding. a.5. Clinical examination to assess practical and general skills.
• **Assessment Schedule**	Final written exam in January and June. Final practical exam in January and June. Final oral exam in January and June.
• **Weighting of Assessment**	Written exam: 60marks. Practical exam: 20 marks. Oral exam: 20 marks.
• **List of References**	
• **Course Notes**	Word copy of the seminars presented by the students.
• **Essential Books (Text Books)**	Fundamentals of operative dentistry a contemporary approach.
• **Recommended Books**	Sturdevant's: Art and science of operative dentistry.
• **Scientific periodicals, bulletins, etc…..**	

Course Coordinator: Prof. Dr. Essam Abdel Hafez.

Date: 3 / 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department: Prosthodontics

Course Specification (2015-2016)

1- Basic Information		
Course Name: **Fixed Prosthodontics-1**	**Course Code:755**	**Level: 1st semester-2nd part**
Master degree in: **Fixed Prosthodontics**	**Credit Hours: Total: 5** **Theoretical: 3 / Practical: 4.**	

2- Aim of the course:	• The fixed prosthodontics course aims at providing the graduates with: • Solid knowledge of the fundamentals of fixed prosthodontics. • Basis essential for taking the necessary decisions in treating simple and advanced complicated cases.

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.1Outline the basic principles of comprehensive diagnosis and treatment plane related to simple and complicated cases. a.2 Explain the different principles of tooth preparation a.3 Describe different mandibular movements and their reproduction using different types of articulators. a.4Identify the biological and periodontal aspects of the restorative procedures a.5Discuss the details of basics of color science. a.6 Describe the esthetic criteria of metal ceramic restorations. a.7 Identify different margin preparations.
b) Intellectual Skills:	b.1Formulate a treatment plan tailored according to patient's needs and expectations depending on patient's history, clinical and radiographic examination and other diagnostic aids. b.2Assess fixed prosthodontic cases and present a suitable treatment plan for these cases b.3 Propose different alternative plans for complicated fixed prosthodontic cases. b.4Distinguish the characteristics of each fixed restoration preparation with special emphasis on the value of conserving tooth structure. b.5Select the most appropriate treatment plan for badly broken down and endodontically treated teeth b.6Propose the appropriate metal framework design to insure success and durability of metal ceramic restorations. b.7 Analyze the influence of different margin preparations on the fabrication of fixed restorations.

c) Professional and Practical Skills:	c.1Design effectively simple and complex fixed restorations dealing with different possible FPD complicated situations. c.2Perform different types of tooth preparations and master the clinical procedures for constructing simple and complex FPD. c.3 Apply occlusion principles during construction of FPD. c.4Practice the steps of restoration of endodontically treated teeth. c.5Perform properly the steps of tooth preparations taking into consideration the biological and periodontal aspects. c.6Apply the protective measures during the steps of tooth preparation in order to fulfill biological and periodontal considerations. c.7Coordinate between manual and knowledge about proper teeth preparation and other laboratory procedures.
d) General and transferable skills	d.1Develop information technology and numerical skills. d.2Communicate inter personally with dental team colleagues and laboratory personnel. d.3 Manage time effectively. d.4 Follow ethical and legal rules during dental practice.

4- Course Contents:	1. Diagnosis and treatment planning 2. Principles of tooth preparation 3. Principles of occlusion 4. Biological and periodontal considerations 5. Color sign and aesthetic considerations 6. Restoration of endondontically treated tooth

5- Teaching and Learning Methods	5.1 **Interactive Lectures; including discussion and brain storming.** 5.2**Clinical sessions:** • Requirement cases are presented and discussed to reach the most appropriate treatment plan. 5.3**Self learning:** assignments for topic seminars would be required by each student. • Seminars are scheduled and the students are required to review the literature around the topic. • Students will be required to read, summarize and present class discussion, aiming to review previous publications on different topics in prosthodontic dentistry. 5.4 **Clinical requirement cases**: • Two All- ceramic crowns (anterior and posterior) • Two anterior bridges(PFM and all-ceramic) • Two posterior bridges(PFM and all-ceramic) • Two post crowns (readymade and custom made posts) • Two endocrowns. By the end of the 2nd part each student should deliver: a. Two implant superstructure cases (one case of single implant and one case implant retained bridge). b. Laminate veneer case (at least 6 laminates). c. One of the following complicated cases: o Mesially tilted molar. o Pier abutment. o Canine replacement. o Cantilever bridge. o Missing upper central incisor with space problem. 5.5 **Problem solving – Case study**.
6- Teaching and Learning Methods for special needs students	• Direct observation • Hands-on training • Individual teaching.

7- Student Assessment	
a) Assessment Methods	6.1 **Written examination** to assess knowledge and understanding, and intellectual skills. 6.2 **Oral examination** to assess knowledge and understanding, intellectualand general skills 6.3 **Clinical examination** to assess knowledge and understanding, intellectualskills, professional and practical skills, general and transferrable skills.
b) Assessment Schedule	By the end of the 1st part of the 2nd semester: • Written final exam • Oral final exam. • Clinical final exam
c) Weighting of Assessment	Written exam: 150 Clinical exam: 70 Oral exam: 30 Total 250

8- List of References	
a) **Course Notes**	PPT presentations of the course coordinator.
b) **Essential Books (Text Books)**	• Rosenstiel SF, Land MF and Fujimoto J (2015): Contemporary Fixed Prosthodontics, 5th edition, St. Louis, Mo: Mosby Elsevier.
c) **Recommended Books**	• Shillingburg HT (2008): Fundamentals of Fixed Prosthodontics, 4th edition, Chicago: Quintessence Pub. Co.
d) **Scientific periodicals, bulletins, etc…..**	• www.pubmed.com. • www.sciencedirect.com. • www.blackwell.com

Course Coordinator: prof. Osama Saleh

Date: 3 / 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: conservative dentistry Department*

Course Specification

1- Basic Information		
Course Title: Endodontics 3	**Course Code:767**	**Level: 2nd part, 3rd semester**
Master degree in:Endodonics	**Credit Hours: 5Theoretical: 3 Practical: 4**	

2- Aim of the course:	Master student will get professional and practical skills to manage most of conservative endodontic cases.
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 access cavity concepts related to endodontic treatment. 2. explain macroscopic anatomy of upper and lower teeth 3. Recognize scientific developments in the diagnosis and management of pulp and periapical lesions. 4. distinguish between different endodontic instruments in cleaning and shaping root canal system 5. discuss different obturating materials and recent techniques used in endodontics

b) Intellectual Skills:	1. Analyze and evaluate the diagnostic information from different clinical and radiographic modalities in root canal therapy. 2. Apply different endodontic knowledge to differentiate between different endodontic instrumentation techniques. 3. Point out the risks in different retreatment modalities in endodontics.
c) Professional and Practical Skills:	1. develop different skills in management of different endodontic errors 2. combine basic and modern knowledge in root canal therapy.
d) General and transferable skills	1. design effective communication with patient and dental auxiliaries. 2. Use of information technology to serve professional practice. 3. assess and identify personal learning needs. 4. recommend the Use of different sources for access to information and knowledge.

4- Course Contents:	1. Scope of endodontics 2. Indications and contraindications 3. Macroscopic anatomy 4. Access cavity preparation 5. Cleaning and shaping 6. Instruments 7. Obturation 8. Pulp and periapical diseases 9. Diagnosis in endodontics 10. Mishaps, correction and detection
5- Teaching and Learning Methods	1. Interactive lecture, discussion, brain storming 2. Small group sessions 3. Self learning: Seminar per week with discussion, presentations 4. Demonstrations: Videotapes 5. Clinical: case study and problem solving.
6- Teaching and Learning Methods for special needs students	None

7- Student Assessment	
a) Assessment Methods	Written exam: to assess knowledge and understanding, intellectual skills Oral exam: to assess knowledge and understanding, intellectual skills, professional and practical skills, general and transferable skills. Practical exam: to assess knowledge and understanding, intellectual skills, professional and practical skills, general and transferable skills.
b) Assessment Schedule	Final written exam Final oral exam Final practical exam
c) Weighting of Assessment	Written 60 marks Clinical 20 marks Oral 20 marks

8- List of References	
a) Course Notes	None
b) Essential Books (Text Books)	1. Endodontic problem solving in clinical endodontics, Gutmann&Lovdahl, 5th edition 2011. 2. Endodontics by coseluicio

c) Recommended Books	1. Ingle 6th edition 2016. 2. Pathway of the pulp, cohen 11th edition 2016.
d) Scientific periodicals, bulletins, etc…..	1. Journal of endodontics. 2. International endodontic journal.

Course Coordinator: Dr. Al Saeed Abd EL Hafez

Date: 3 / 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: Conservative Dentistry.*

Course Specification

1- **Basic Information**		
Course Title: Operative Dentistry 2	**Course Code:758**	**Level: second part (second semester)**
Master degree in: Fixed prosthodontics Endodontics	**Credit Hours: Theoretical: 2** **Practical: 2**	

2- Aim of the course:	To enable the postgraduate students to : 1- Recognize different bonding and adhesive systems and their effect on post-operative pain and hypersensitivity. 2- Differentiate between carious and non-carious lesions and their respective management. 3- Expand their skills and knowledge on the importance of esthetic considerations, demineralization and remineralization process and dental cariology. 4- Be familiar with recent dental technology and perform conservative approach to preserve tooth structure as possible.

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 Define bonding and adhesion system. a.2 Determine Esthetics consideration in operative dentistry. a.3Describe Dental cariology and understand caries management. a.4Explain the demineralization remineralization process and how it applies to operative dentistry. a.5Identify causes of dental pain , hypersensitivity and non carious lesion . a.7. Discuss dental technology and tooth preservation methods.
b- Intellectual Skills:	b.1. Distinguish different types of bonding and adhesion systems. b.2. Comprehend the importance of esthetics in operative dentistry. b.3. Distinguish dental cariology and the role it plays in the management of caries. b.4. Asses the role that pain and hypersensitivity plays in the final outcome of the restoration and how to avoid it. b.5. Differentiate between carious and non-carious lesions and choose more suitable treatment plan for non-carious lesions. b.6. Compare recent dental technologies and tooth preservation methods and select appropriate restorations for different cases.

c- Professional and Practical Skills:	c.1. Use appropriate Bonding and adhesion system for each selected case. c.2. Apply the esthetic consideration in operative dentistry. c.3. Design suitable treatment plan according to dental cariology and manage caries accordingly. c.4. Apply the concept of the remineralization demineralizaton process to the lesions that are seen clinically. c.5. Solve any complications that would lead to pain and hypersensitivity post-operatively. c.6. Mange non-carious lesions.
d- General and transferable skills	d.1 Implement infection control policies and maintain international professional standards for health care providers . d.2 Apply ethical and moral principles and practices to professional holistic treatment of patients as a person not just a cluster of symptoms, providing quality care to individuals and the community. d.3 Recognize the value and role of life long learning, self assessment, and critical thinking in maintaining competency. d.4 Evaluate personal progress and be able to assess ones weakness and strengths. d.5 Recognize the Egyptian healthcare system and the community based resources and services available and to be able to utilize them to provide high quality care to the patient and to community.

4. Course Contents:	1. Bonding and adhesion. 2. Esthetic consideration in operative dentistry. 3. Dental cariology and caries management. 4.Demineralization and remineralization of hard tooth tissues. 5. Pain and hypersensitivity 6. Management of non-carious lesions. 7. Dental technology and tooth preservation.

5. Teaching and Learning Methods	Theoretical: 5.aInteractive lectures. 5.bSelf-study, presentations, online material 5.c Tutorial classes • Small group teaching • Computer projects • Projector slides. Clinical: 5.d Practicing to imitate and to manipulate the desired clinical cases within scheduled time. 5.e Case study and problem solving
6. Teaching and Learning Methods for special needs students	Hands on learning. Individual teaching.
7. Student Assessment	
• **Assessment Methods**	a.1 Written examination to assess knowledge , understanding and intellectual skills. a.2 Oral examination to assess knowledge,understanding and intellectual skills. a.3 log book practical requirements to be finished on the scheduled time to assess practical & general skills. a.4 Seminar presentations to assess knowledge and understanding a.5Clinical examination to assess practical & general skills.
• **Assessment Schedule**	Final written exam in Januaruy and June. Final practical exam in Januaruy and June Final oral exam in Januaruy and June
• **Weighting of Assessment**	Written exam: 60marks. Practical exam: 20 marks. Oral exam: 20 marks.

8. List of References	
• **Course Notes**	Word copy of the seminars presented by the students .
• **Essential Books (Text Books)**	Fundamentals of operative dentistry a contemporary approach.
• **Recommended Books**	Sturdevant's:Art and science of operative dentistry.
• **Scientific periodicals, bulletins, etc…..**	

Course Coordinator: Prof. Dr. Essam Abdel Hafez.

Date: 3 / 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department: Prosthodontics

Course Specification

1- Basic Information		
Course Name: **Fixed Prosthodontics-2**	**Course Code: 756**	**Level:2nd semester-2nd part**
Master degree in: **Fixed Prosthodontics**	**Credit Hours: Total: 5** **Theoretical: 3 / Practical: 4**	

2- Aim of the course:	The fixed prosthodonticscourse aims at providing the graduates with: • Adequate knowledge of the success and failure criteria of fixed prostheses and the management of failed restorations. • The necessary knowledge of the recent techniques available in all fixed prosthodontics fields. • The fundamentals of implant retained restorations.

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 Describe different types of advanced ceramics. a.2 Identify the different designs and techniques in construction of implant-supported fixed prosthesis. a.3 Explain the principles of preparations, constructions and clinical applications of esthetic conservative restorations a.4 Identify the biological, mechanical and esthetic aspects of fixed prosthodontic failures and how to manage a.5 Explain the principles of ceramic strengthening and the different types of modern ceramic. a.6Classify the different types of casting alloys and recognize their properties and correct application in different FPD situations.
b) Intellectual Skills:	b.1 Assess properly the success and failure of the final restorations and manage the failure b.2Employ the different clinical steps involved in tooth preparation to receive metal ceramic and all ceramic restorations. b.3Assess properly the success and failure during the try in step b.4Propose the safe use and maintenance of recent laboratory equipment used for the fabrication of fixed restorations. b.5Correlate different types of FPD components with their precise application.

c) Professional and Practical Skills:	c.1 Practice the steps of restoration of laminate veneers. c.2 Perform properly the steps of tooth preparations taking into consideration the biological and periodontal aspects to receive resin bonded restorations c.3 Appraise the quality of the final restoration during checking and correct the imperfections or remake. c.4 Assess patient education as regard oral hygiene measures and post-operative care to avoid and/or predict failure. c.5Perform properly the different steps of cementation procedures. c.6Generate coordination with the dental laboratory effectively. c.7Apply occlusion principles during construction of FPD. c.8Design simple implant supported FPD based on biomechanical, esthetic and restorative principles. c.9Analyze technical difficulties that may be encountered during treatment plan. c.10Manage the different clinical situations to prepare and construct laminate veneers and resin bonded restorations .
d) General and transferable skills	d.1Develop information technology and numerical skills. d.2Communicate inter personally with dental team colleagues and laboratory personnel. d.3 Manage time effectively. d.4 Follow ethical and legal rules during dental practice.

4- Course Contents:	1. Implant supported fixed prosthesis 2. Laminate veneers 3. Resin bounded prosthesis 4. All ceram 5. Metal ceramic restoration 6. Checking and verification 7. Failure 8. Luting agent and cementation 9. Care and maintenance

5- Teaching and Learning Methods	5.1 **Interactive Lectures; including discussion and brain storming.** 5.2**Clinical sessions:** • Requirement cases are presented and discussed to reach the most appropriate treatment plan. 5.3 **Self learning:** assignments for topic seminars would be required by each student. • Seminars are scheduled and the students are required to review the literature around the topic. • Students will be required to read, summarize and present class discussion, aiming to review previous publications on different topics in prosthodontic dentistry. 5.4 **Clinical requirement cases**: • Two All- ceramic crowns (anterior and posterior) • Two anterior bridges(PFM and all-ceramic) • Two posterior bridges(PFM and all-ceramic) • Two post crowns (readymade and custom made posts) • Two endocrowns. By the end of the 2nd part each student should deliver: d. Two implant superstructure cases (one case of single implant and one case implant retained bridge). e. Laminate veneer case (at least 6 laminates). f. One of the following complicated cases: o Mesially tilted molar. o Pier abutment. o Canine replacement. o Cantilever bridge. o Missing upper central incisor with space problem. 5.5 **Problem solving – Case study**.
6- Teaching and Learning Methods for special needs students	• Direct observation • Hands-on training • Individual teaching.

7- Student Assessment	
a) Assessment Methods	6.1 **Written examination** to assess knowledge and understanding, and intellectual skills. 6.2 **Oral examination** to assess knowledge and understanding, intellectualand general skills 6.3 **Clinical examination** to assess knowledge and understanding, intellectualskills, professional and practical skills, general and transferrable skills.
b) Assessment Schedule	After thesis presentation, defense and acceptance: • Written final exam • Oral final exam. • Clinical final exam.
c) Weighting of Assessment	Written exam: 150 Clinical exam: 70 Oral exam: 30 Total 250

8- List of References	
a) **Course Notes**	PPT presentations of the course coordinator.
b) **Essential Books (Text Books)**	• Rosenstiel SF, Land MF and Fujimoto J (2015): Contemporary Fixed Prosthodontics, 5th edition, St. Louis, Mo: Mosby Elsevier.
c) **Recommended Books**	• Shillingburg HT (2008): Fundamentals of Fixed Prosthodontics, 4th edition, Chicago: Quintessence Pub. Co.
d) **Scientific periodicals, bulletins, etc…..**	• www.pubmed.com. • www.sciencedirect.com. • www.blackwell.com

Course Coordinator: Dr. Rania Adel

Date: 3 / 2016

University: Future University in Egypt.

Faculty: Faculty of Oral and Dental Medicine

Department*: conservative dentistry Department*

Course Specification

1- Basic Information		
Course Title: Endodontics	**Course Code:768**	**Level: 2nd part 4th semester**
Master degree in:Endodonics	**Credit Hours: 5Theoretical: 3 Practical: 4**	

2- Aim of the course:	Master student should be able to manage all endodontic microsurgeries and techniques of revascularization.
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 advances of root canal practicing. 2. Identify the basics and ethics of scientific research. 3. interpret factors determining treatment plan of root fracture 4. List therapeutics in compromised patients. 5. state role of endodontics and other dental specialties 6. identify recent role of tissue engineering and revascularization in endodontics 7. recognize the role of magnification and illumination in endodontic surgery 8. describe the management of endodontic therapy in old age patients

b) Intellectual Skills:	1. Solve problems related to root canal complexity with recent and diagnostic tools. 2. Construct a research study and write a systemic scientific study on a research problem in root canal therapy. 4. select professional decisions in management of root canal mishaps and problems.
c) Professional and Practical Skills:	1. Write and evaluate professional radiographic and other lab investigation reports and prescriptions. 2. Evaluate different diagnostic, instrumentation and obturating methods and tools in endodontics.
d) General and transferable skills	1. Develop rules and indicators for evaluating the performance of dental auxiliaries. 2. Work in team, lead teams in different professional contexts. 3. manage time efficiently. 4.enhance self-learning continuous education.

4- Course Contents:	1. Emergency treatment 2. Traumatic injuries 3. Surgical endodontics 4. Therapeutics in endodontics 5. Pulp-perio relationship 6. Endo with other dental specialty 7. Tissue engineering and revascularization 8. Restoration of endodontically treated teeth 9. microsurgery 10. Case selection 11. Geriatric endodontics 12. Medicolegal responsibility
5- Teaching and Learning Methods	1. Interactive lecture, discussion, brain storming 2. Small group sessions 3. Self learning: Seminar per week with discussion, presentations 4. Demonstrations: Videotapes 5. Clinical: case study and problem solving
6- Teaching and Learning Methods for special needs students	

7- Student Assessment	
a) Assessment Methods	Written exam: to assess knowledge and understanding, intellectual skills Oral exam: to assess knowledge and understanding, intellectual skills, professional and practical skills, general and transferable skills. Practical exam: to assess knowledge and understanding, intellectual skills, professional and practical skills, general and transferable skills.
b) Assessment Schedule	Final written exam Final oral exam Final practical exam
c) Weighting of Assessment	Written 60 marks Clinical 20 marks Oral 20 marks

8- List of References	
a) Course Notes	None
b) Essential Books (Text Books)	1. Endodontic problem solving in clinical endodontics, Gutmann&Lovdahl, 5th edition 2011. 2. Endodontics by coseluicio

c) Recommended Books	1. Ingle 6th edition 2016. 2. Pathway of the pulp, cohen 11th edition 2016.
d) Scientific periodicals, bulletins, etc…..	1. Journal of endodontics. 2. International endodontic journal.

Course Coordinator: Prof. Medhat Kataia

Date: 3 / 2016

Program coordinator:
Signature:
Date: / /

Head of department:
Signature:
Date: / /