Course Title	Management of Oral Mucosal Lesions
Course Code	BDSPCE01
Department	Oral Medicine and Radiology
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This course aims to prepare the students for comprehensive management of oral mucosal lesions of the oral cavity.
The students are trained to diagnose mucosal lesions commonly encountered in clinical practice based on clinical examination and lab investigation. Students are also trained to devise an appropriate management protocol and implement.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Oral Medicine and Radiology
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

Sl.No.	Intended Learning Outcome
1	Record case history relevant to the oral mucosal lesions
2	Prescribe necessary investigations to aid in diagnosis
3	Develop an appropriate treatment protocol for oral mucosal lesions
4	Discuss recent trends and innovations in management of mucosal lesions

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	**Etiopathogenesis of common mucosal lesions**	i.	Introduction, Basics of etiopathogenesis of common mucosal lesions
2	**Case history**	i.	Importance of case history, personal history with general examination and extra oral examination, Intraoral examination – soft and hard tissue examination, Investigation, diagnosis and treatment planning
		ii.	Performing clinical examination to grade and stage the lesion clinically
3	**Investigations for diagnosis of various mucosal lesions**	i.	Prescribing and performing relevant investigations to confirm the provisional diagnosis of the lesion
		ii.	Informed consent Infection control protocols to be followed
4	**Principles of management of various mucosal lesions**	i.	General Principles for emergency management and care
		ii.	Definitive care of mucosal lesions
		iii.	Follow up and review
5	**Barriers in Management of mucosal lesions**	i	Systemic influences(associated co morbidities) on oral health and management of mucosal lesions
		ii	Drug Resistance and relapse seen in certain conditions
6	**Recent trends and innovations in management of mucosal lesions**	i.	Herbal therapies , Acupuncture, stem cell therapy, photodynamic therapy, Multidisciplinary approach for management of mucosal lesions
CLINICAL WORK			
1	Case discussion		
2	Chair side investigations		
3	Writing referral for physician opinion		
4	Providing definitive care for mucosal lesions		
5	Follow up and Review		
6	Case presentation		

3. Course Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Theory		**15**
5. Lectures/		
6. Symposium/panel discussion		
7. Small Group discussion	**11**	
8. Team teaching		
9. Role Play/ Case based Discussion	**4**	
Practical /clinical Work		**55**
1. Demonstration using ICT /Physical Models / Patients	**15**	
2. Pre-Clinical laboratories		
3. Clinical Area – FDS	**30**	
4. Workplace based assessment methods		
5. Hospital Setup – MSRH	**8**	
6. Field work/dental camp		
7. Outreach centres	**2**	
8. Advanced Learning Centre		
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**30**
6. Assignment	**15**	
7. Conferences/ seminars/CDE's	**-**	
8. Workshops	**-**	
9. Information Centre	**15**	
10. Observership	**-**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assesment

There are two components for assessment in this Course:

ii. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

iii. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	Intended Learning Outcome	Type of Assessment	
		Component-I CE	Component-II (Examination)
1	Record case history relevant to the given mucosal lesions	X	X
2	Prescribe necessary investigations to aid in diagnosis	X	X
3	Develop an appropriate treatment protocol for the given condition	X	
4	Discuss recent trends and innovations in management of mucosal lesions	X	X

Both components will be moderated by a second examiner.

5. Reassessment

2. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
3. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
4. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
16.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
17.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
18.	Critical Skills	Case Based Discussion, Assignment
19.	Analytical Skills	Class room lectures
20.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
21.	Practical Skills	Clinical posting
22.	Group Work	Case Based Discussion, Small Group discussion
23.	Self-Learning	Assignment, Clinical posting, Information Centre
24.	Written Communication Skills	Assignment
25.	Verbal Communication Skills	Clinical posting
26.	Presentation Skills	Case Presentation

27.	Behavioral Skills	Clinical posting
28.	Information Management	Assignment, Information Centre
29.	Personal Management	Clinical posting
30.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. Rajendran R. (2012) Shafer's Textbook of Oral Pathology. 7th ed. New Delhi: Elsevier India.
2. Martin S. Greenberg, Michael Glick, Jonathan A. Ship (2008) Burket's oral medicine. 11th ed. McGraw Hill Education.
3. Steven L. Bricker, Robert P. Langlais, Craig S. Miller (2002) Oral Diagnosis, Oral Medicine and Treatment Planning. 2nd ed. BC Decker Inc
4. Shafer, Hine, Levy, (2009), Textbook of Oral Pathology. 6th Edition, Elsevier.
5. Brad W. Neville, Douglas D. Damn, Carl M. Allen (2008) Oral and Maxillofacial Pathology. 3rd ed. Saunders publications.
6. Davidson, (2006), Principles and Practice of General Medicine.20th Edition, Elsevier

Recommended Reading

1. Norman K. Wood and Paul W. Goaz (1997) Differential Diagnosis of Oral and Maxillofacial Lesions. 5th ed. St Louis Missourri (USA): Mosby publishers
2. Joseph Regezi, James J Sciubba, (2008), Oral pathology: Clinicopathological correlations. 5th Edition, Elsevier.

IV.	**Course Organization**			
	Course Code	BDSPCE01		
	Course Title	Oral Medicine and Radiology		
	Course Leader/s Name		Dr Shwetha V	
	Course Leader Contact Details		**Phone:**	080 - 23601829
			E-mail:	shwetha.or.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Basic Principles of CBCT In Dental Implants
Course Code	BDSPCE02
Department	Oral Medicine and Radiology
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This Course aims to provide an introduction to Cone Beam Computerised Tomography (CBCT) and its application.

The student will be trained on the various aspects of clinical consideration for operating CBCT machine. The student will also be trained for task specific applications of CBCT relevant to simple procedures in Dental Implantology.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Oral Medicine and Radiology
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

Sl.No.	Intended Learning Outcome
1	Discuss the principles of CBCT Imaging
2	Discuss Strengths and Limitations of CBCT
3	Demonstrate the Clinical considerations for CBCT application
4	Perform Dental Implant Site Assessment for Simple case using CBCT

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	Principles of Cone-Beam Computed Tomographic Imaging		Image Acquisition Image Detection Image Display
2	Clinical Considerations		Patient selection criteria Patient Preparation Imaging Protocol Image Optimization Archiving, Export and Distribution
3	Image Artifacts		Inherent Artifact Procedure-Related Artifacts Introduced Artifacts Patient Motion Artifacts
4	Task-Specific Applications		Diagnosi Preoperative Assessment Treatment Planning Virtual Simulations

CLINICAL WORK	
1	Image Acquisition
2	Digital manipulation of Displayed Image/ Image Optimization
3	Patient selection criteria
4	Imaging Protocol
5	Preoperative Assessment
6	Dental Implant Treatment Planning
7	Virtual Simulations
8	Case presentation
9	Assignment

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures		
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**10**	
4. Team teaching		
5. Role Play	**-**	
6. Case Based Discussions	**5**	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients	**20**	
2. Pre-Clinical laboratories	**45**	
3. Clinical Area – FDS		
4. Workplace based assessment methods		

5. Hospital Setup – MSRH		
6. Field work/dental camp	-	
7. Outreach centres	-	
8. Advanced Learning Centre		
9. Projects	-	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	-	
Self-directed learning		**20**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	-	
3. Workshops	-	
4. Information Centre	**10**	
5. Observership	-	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

iv. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

v. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	Intended Learning Outcome	Type of Assessment	
		Component-I CE	Component-II Assignment
1	Discuss the principles behind Cone Beam Computerised Tomography imaging	X	
2	Discuss Strengths and Limitations of CBCT	X	
3	Demonstrate the Clinical considerations for CBCT application	X	
4	Perform Dental Implant Site Assessment for Simple case using CBCT	X	X

Both components will be moderated by a second examiner.

5. Reassessment

5. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
6. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
7. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10	Verbal Communication Skills	Clinical posting
11	Presentation Skills	Case Presentation
12	Behavioral Skills	Clinical posting
13	Information Management	Assignment, Information Centre
14	Personal Management	Clinical posting
15	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

7. Cone beam volumetric imaging in dental, oral & Maxillofacial medicine Fundamentals, diagnosis and treatment planning+CD
8. Oral Radiology,6th Edition, Principles and Interpretation, Authors: Stuart White Michael Pharaoh
9. Oral Radiology,7th Edition, Principles and Interpretation, Authors: Stuart White Michael Pharaoh

Recommended Reading

1. Color atlas of cone beam volumetric imaging for dental application

IV.	**Course Organization**			
	Course Code	BDSPCE02		
	Course Title	Oral Medicine and radiology		
	Course Leader/s Name		Dr N Rakesh	
	Course Leader Contact Details		**Phone:**	94410007494
			E-mail:	rakesh.or.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Lasers in Periodontology
Course Code	BDSPCE03
Department	Periodontology
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This Course aims to train students to perform basic and simple surgical procedures under supervision.

The students will be introduced to concepts of lasers and its applications in Periodontics. Students will be provided an opportunity to observe use of lasers in pre-prosthetic, perio-esthetic and implant procedures. Students are trained to assist and perform supervised simple surgical procedures using lasers

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	5
Number of clinical hours	100
Number of weeks	3
Department responsible	Periodontology
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

Sl.No.	Intended Learning Outcome
1	Discuss the concepts and applications of Lasers in Periodontics
2	Demonstrate the application of laser on simulated model
3	Assist surgical procedures performed using lasers
4	Perform basic surgical procedure using lasers

Course Contents

2.THEORY

LESSON NO	Chapter		Lesson Topics
1	Introduction to LASERS	ii.	Definition and scope of LASER Dentistry
2		iii.	Importance of case history, personal history with general examination and extra oral examination

	Selection of the Patient	iv.	Intraoral examination – soft and hard tissue examination, Investigation, diagnosis and treatment planning
3	Overview of laser wavelengths used in dentistry	iii.	Fundamental physics of how laser energy is produced
		iv.	Laser –art and science of reconstructive process
4	Laser use in fixed, removable and implant dentistry,periodontics,pediatric dentistry, cosmetic dentistry	iv.	Monotherapy and as adjunctive modality in management of periodontal pathology
		v.	Function of lasers in cosmetic dentistry and the historic and contemporary methods used for bleaching teeth,comparision of bleaching agents and energy sources, discuss the procedures and related safety issues
5	Lasers in a hospital based dental practice	vi.	Lasers in a hospital based dental practice
CLINICAL WORK			
1	Case history discussion with patient demonstration		
2	Case presentation		
3	Assignment		

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures/		
2. Symposium/panel discussion	-	
3. Small Group discussion	**5**	
4. Team teaching		
10. Role Play		

11. Case based discussion	**10**	
Practical /clinical Work		**55**
1. Demonstration using ICT /Physical Models / Patients	**10**	
2. Pre-Clinical laboratories		
3. Clinical Area – FDS	**45**	
4. Workplace based assessment methods		
5. Hospital Setup – MSRH		
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre		
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**30**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership	**10**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

vi. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

vii. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	**Intended Learning Outcome**	**Type of Assessment**	
		Component-I CE	**Component-II Assignment**
1	Discuss the concepts and applications of Lasers in Periodontics	X	
2	Demonstrate the application of laser on simulated model	X	X
3	Assist surgical procedures performed using lasers	X	X
4	Perform basic surgical procedure using lasers	X	X

Both components will be moderated by a second examiner.

5. Reassessment

8. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
9. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
10. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10	Verbal Communication Skills	Clinical posting
11	Presentation Skills	Case Presentation
12	Behavioral Skills	Clinical posting
13	Information Management	Assignment, Information Centre
14	Personal Management	Clinical posting
15	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. Carranza, F. A., Newman, M. G., Takei, H. H., & Klokkevold, P. R. (2006).Carranza's Clinical Periodontology. St. Louis, Mo, Saunders Elsevier.

Lindhe, J., Karring, T., & Lang, N. P. (2003). Clinical Periodontology and Implant Dentistry.Oxford, Uk, Blackwell.

2. Robert A.Convissar. (2000). Lasers and Light Amplification in Dentistry. The Dental Clinics of North America.

3. Donald J. Coluzzi and Robert A.Convissar (2004). Lasers in Clinical Dentistry. The Dental Clinics of North America.

Reccomended Reading

1. Sato, N. (2000). Periodontal surgery: A Clinical Atlas. Chicago, Quintessence Pub. Co
2. Cohen, E. S. (2007). Atlas of Cosmetic and Reconstructive Periodontal Surgery. Hamilton,BCDecker.
3. Kieser, J. B. (1990). Periodontology: A Practical Approach. London, Wright.
4. Nevins, M., & Mellonig, J. T. (1998). Periodontal Therapy: Clinical Approaches and Evidence Of Success. Chicago, Quintessence Pub. Co.
5. Serio, F. G., & Hawley, C. E. (2009). Manual of Clinical Periodontology: A Reference Manual For Diagnosis&Treatment. Hudson, Ohio, Lexi-Comp.
6. Bartolucci, E. G. (2001). Periodontology: Text-Atlas. Milan, Italy, RC Libri
7. Rajendran, R., Sivapathasundharam, B., & Shafer, W. G. (2012). Shafer's textbook of Oral Pathology.
8. J., Goldman, H. M., Cohen, D. W., & Goldman, H. M. (1990).Contemporary Periodontology. St. Louis, Mosby.
9. Langlais, R. P., Miller, C. S., & Nield-Gehrig, J. S. (2009). Color Atlas Of Common Oral Diseases.ommended Reading

IV.	**Course Organization**			
ha	**Course Code**	BDSPCE03		
	Course Title	Lasers in Periodontology		
	Course Leader/s Name		Dr Bhavya.B	
	Course Leader Contact Details		**Phone:**	9880262593
			E-mail:	Bhavya.pd.ds@msruas.ac.in
	Course Specifications Approval Date		July2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Periodontal Surgery for Clinician
Course Code	BDSPCE04
Department	PERIODONTOLGY
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

The students will be trained to perform minor periodontal surgeries.

The students will be trained to identify cases for minor periodontal surgeries. They will also be trained in the area of armamentarium and instrumentation relevant to minor surgical procedures. The student will be trained to demonstrate3different types of incisions and suturing techniques on models and perform minor periodontal surgical procedures.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the Course	15
Number of tutorial hours	--
Number of clinical hours	90
Number of weeks	3 weeks.
Department responsible	Periodontology
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

3. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

Sl.No.	Intended Learning Outcome
1	Discuss the general principles for periodontal surgery
2	Select patients for minor periodontal surgery
3	Demonstrate different incisions and suturing techniques on models
4	Perform minor periodontal surgeries

2.Course Contents

THEORY

LESSON NO	Chapter	Lesson Topics
1	General Principles of Periodontal Surgery & Treatment Planning	1. Patient preparation, 2. Emergency equipment, 3. Periodontal dressings, 4. Management of post-operative pain.

2	Surgical anatomy of periodontium and related structures	1.Maxilla 2.Mandible 3.muscles and anatomic spaces
3	Surgical instruments	1.Excisional and incisional instruments, 2. Surgical curettes and sickles, Periosteal elevators, Surgical chisels, Tissue forceps, Scissors and nippers, Needle holders,
4	Gingival Surgical Techniques	1.Gingivectomy 2.Gingivoplasty 3.Indications and Contraindications 4.Healing,
5	Minor mucogingival surgical technique	1. Frenectomy Indication and contraindications 2. Frenotomy Indication and contraindications 3. Abscess drainage
CLINICAL WORK		
1	Case history discussion with patient demonstration	
2	Assessment of child behavior	
3	Sterilization and infection control practices	
4	Hospital protocols	
5	Operation theatre protocols	
6	Patient admission	
7	Oral Rehabilitation under mild sedation	
8	Oral Rehabilitation under General anesthesia	
9	Case presentation	
10	Assignment	

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures/	**6**	
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**9**	
4. Team teaching	**-**	
5. Role Play	**-**	
Practical /clinical Work		**90**
1. Demonstration using ICT /Physical Models / Patients	**30**	
2. Pre-Clinical laboratories		

3. Clinical Area – FDS	**50**	
4. Workplace based assessment methods		
5. Hospital Setup – MSRH		
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre		
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**10**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**-**	
5. Observership	**-**	
Term Tests, Laboratory Examination/Written Examination, Presentations		
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

viii. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

ix. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	**Intended Learning Outcome**	**Type of Assessment**	
		Component-I CE	**Component-II Assignment**
1	Discuss the general principles for periodontal surgery	X	X
2	Select patients for minor periodontal surgery	X	X
3	Demonstrate different incisions and suturing techniques on models	X	X
4	Perform minor periodontal surgeries	X	X

Both components will be moderated by a second examiner.

5. Reassessment

11. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.

12. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
13. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Case Presentation
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. Perry R klokkevold, Henry H Takei and Fermin A Carranza. General principles Of Periodontal Surgery, 10th edition, Elsevier Science Ltd
2. Greeg JM Surgical Anatomy. In Laskin DM Oral and Maxillofacial Surgery Vol 1 St Louis 1980, Mosby.
3. Fermin A Carranza Surgical Anatomy of the Periodontium and Related Structures. 10th Edition, Elsevier Science Ltd
4. Edwards Cohen Sutures and Suturing Techniqques Atlas of Cosmetic and Reconstructive Periodontal Surgery 3rd Edition, Peoples Medical Publishing House.
5. Edwards Cohen Gingivectomy and Gingivoplasty Atlas of Cosmetic and Reconstructive Periodontal Surgery 3rd Edition, Peoples Medical Publishing House.

6. Naoshi Sato Frenectomy and Frenotomy Periodontal Surgery a Clinical Atlas 2nd edition quintessence publishing.
7. Jan l wennstrom mucogingival therapy –periodontal plastic surgery clinical periodontology and implant dentistry 5th edition Blackwell publishers.

Recommended Reading

14. Lucinda B McKECHNE Instrumentation Selection and Care Contemporary Periodontics Mosby Publisher.
15. Peter J Robinson And Charles H Goodman General Principles Of Surgical Therapy Contemporary Periodontics Mosby Publisher.

IV.	**Course Organization**			
	Course Code	BDSPCE04		
	Course Title	Periodontal Surgery for Clinician		
	Course Leader/s Name		Dr mahantesha	
	Course Leader Contact Details		**Phone:**	9844611562
			E-mail:	Mahantesha.pd.ds@msruas.ac.in
	Course Specifications Approval Date		July2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Hospital Pediatric Dentistry
Course Code	BDSPCE05
Department	Pedodontics and Preventive Dentistry
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This course aims to prepare students to identify child patients requiring oral rehabilitation under general anesthesia and co-ordinate appropriate referrals.

The students will be able to analyze uncooperative child behavior and select patients for oral rehabilitation under general anesthesia. They will also relate to hospital protocols and assist oral rehabilitation under both mild to moderate sedation and general anesthesia.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Pedodontics and Preventive Dentistry
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the course, the student should be able to:

1. Assess patients based on risk benefit ratios for oral rehabilitation under general anesthesia
2. Discuss the concepts of hospital pediatric dentistry
3. Co-ordinate with the hospital for operation theatre protocols
4. Assist for oral rehabilitation under general anesthesia

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	Introduction to Hospital Pediatric Dentistry	iii.	Definition and scope of Hospital Pediatric Dentistry
2	Selection of the Patient	v.	Importance of case history, personal history with general examination and extra oral examination
3		vi.	Intraoral examination – soft and hard tissue examination, Investigation, diagnosis and treatment planning
4	Child psychology with emphasis on behavioral and emotional development	v.	Definition of behaviour and behaviour management and factors affecting child behavior
5		vi.	Classification of child behavior and role of dental team in behaviour management and role of parents
6	Behaviour management in Pediatric Dentistry	vii.	Domains of behaviour management – physical and pharmacologic domain – mild sedation
7		iii.	Domains of behaviour management –pharmacologic domain – moderate sedation
8		ix.	Domains of behaviour management –pharmacologic domain - deep sedation / general anesthesia
9	Hospital Pediatric dentistry	x.	Informed consent
10		xi.	Hospital administration protocols
11		xii.	Operating theatre protocols
12		iii.	Infection control in Operation theatre
13	Role of systemic diseases in children for Hospital Pediatric dentistry	ii.	Management of children with medical problems – CNS, CVS, RS and GIT problems
14		iii.	Management of children with medical problems – Renal, Endocrinological problems
15		iv.	Management of children with medical problems – Hematological problems
CLINICAL WORK			
1	Case history discussion with patient demonstration		
2	Assessment of child behavior		
3	Sterilization and infection control practices		
4	Hospital protocols		
5	Operation theatre protocols		
6	Patient admission		
7	Oral Rehabilitation under mild sedation		
8	Oral Rehabilitation under General anesthesia		
9	Case presentation		
10	Assignment		

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures	**-**	
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**10**	

4. Team teaching	**-**	
5. Role Play	**1**	
6. Case based discussion	**4**	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients	**10**	
2. Pre-Clinical laboratories		
3. Clinical Area – FDS	**10**	
4. Workplace based assessment methods		
5. Hospital Setup – MSRH	**40**	
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre	**5**	
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**20**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership	**-**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this course:

x. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

xi. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl no	Intended learning outcome	Component 1 CE	Component 2 Assignment
1	Assess patients based on risk benefit ratios for oral rehabilitation under general anesthesia	**X**	**X**
2	Discuss the concepts of hospital pediatric dentistry	**X**	
3	Co-ordinate with the hospital for operation theatre protocols	**X**	
4	Assist for oral rehabilitation under general anesthesia	**X**	**X**

Both components will be moderated by a second examiner.

5. Reassessment

14. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
15. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
16. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Case Presentation
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. J.R Pinkham (2005). Pediatric Dentistry - Infancy through adolescence. 4th Edition : Elsevier Science Ltd
2. Ralph E McDonald, David R. Avery, Jeffery A Dean (2004). Dentistry for the Child and Adolescent. 8th Edition: Mosby Inc
3. Raymond L. Braham, Merle E. Morris (19100). Textbook of Pediatric Dentistry. 2nd Edition: CBS Publishers
4. Richard J. Mathewson, Robert E. Primosch (1995). Fundamentals of *Pediatric Dentistry.* 3rd Edition: Quintessence Publishers
5. Angus C Cameron, Richard P Widmer (2003). Handbook of Pediatric Dentistry. 3rd Edition: Mosby Year Book Inc
6. Sidney B Finn (1973). Clinical Pedodontics. 4th Edition: AITBS publishers
7. Stephen H. Y. Wei (1988). Pediatric Dentistry: Total Patient Care. 1st Edition: Lea & Febiger,U.S

8. Sakharkar, B. M. (1998)-Principles of Hospital Administration and Planning, Jaypee Publishers, New Delhi.
9. Sharma K. R., Sharma Yashpal (2003) - A handbook on Hospital Administration, Durga Printers, Jammu
10. Davies Llewellyn R. and Macaulay H. M. C. (1995) - Hospital Planning and Administration, Jaypee Brothers, New Delhi

Recommended Reading

1. Leonard B Kaban (2004). Pediatric Oral and Maxillofacial Surgery. 1st Edition: W B Saunders Books
2. Sohrab N Tomasi (2000). Manual of Pediatric Drug Therapy. 2nd Edition: Springhouse Publishing
3. Crispian Scully, Roderick A Cawson (2005). Medical Problems in Dentistry. 5th Edition: Elsevier Science Ltd

IV.	**Course Organization**		
	Course Code	BDSPCE05	
	Course Title	Pedodontics and Preventive Dentistry	
	Course Leader/s Name	Dr Latha Anandakrishna	
	Course Leader Contact Details	**Phone:**	09845379751
		E-mail:	latha.pe.ds@msruas.ac.in
	Course Specifications Approval Date	July 2018	
	Next Course Specifications Review Date:	July 2022	

Course Title	Pediatric Comprehensive Oral Rehabilitation
Course Code	BDSPCE06
Department	Pedodontics and Preventive Dentistry
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This course aims to prepare the students for comprehensive, preventive and therapeutic oral health care for children with severe Early Childhood Caries in terms of restorative and endodontic perspectives.

The students will be trained to assess caries risk and plan comprehensive restorative treatment. The students will also be trained to diagnose pulpal conditions and deliver appropriate treatment.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Pedodontics and Preventive Dentistry
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the course, the student should be able to:

5. Plan comprehensive treatment based on caries risk assessment
6. Select appropriate restorative material for rehabilitation
7. Provide endodontic treatment in primary teeth
8. Rehabilitate children with severe early childhood caries

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	Introduction to Pediatric Dentistry	iv.	Definition and scope of Pediatric Dentistry
2	Selection of the Patient	vii.	Importance of case history, personal history with general examination and extra oral examination Intraoral examination – soft and hard tissue examination, Investigation, diagnosis and treatment planning
3		vii.	Definition of behavior and behavior management and factors affecting child behavior

4	Child psychology with emphasis on behavioral and emotional development	iii.	Classification of child behavior and role of dental team in behavior management and role of parents
5	Behaviour management in Pediatric Dentistry	iv.	Domains of behavior management – Non pharmacologic domains
6		xv.	Domains of behavior management – pharmacologic domain – moderate sedation
7	**Cariology**	i.	Historical background Definition - Etiology & Pathogenesis Caries pattern in primary, young permanent and permanent teeth in children Early childhood caries Rampant caries, and extensive caries - Definition, etiology, Pathogenesis, Clinical features, Complications and Management
9		ii.	Role of diet and nutrition in Dental Caries - Dietary modifications and Diet counseling Dental Plaque - Definition, Initiation, Pathogenesis, Biochemistry, and Morphology' & Metabolism
10		iii.	Subjective and objective methods of Caries detection with emphasis on Caries Activity tests, Caries prediction, Caries susceptibility and their clinical Applications
11	**Pediatric Operative Dentistry** -	v.	Principle of Operative Dentistry along with modifications of required for cavity preparation in primary and young permanent teeth Various Isolation Techniques
12		vi.	Dental Materials - past, current & latest including tooth colored materials
13		vii.	Restorations of decayed primary, young permanent and permanent teeth in children using various restorative material like Glass Ionomer, Composites, Silver, Amalgam & its alternatives, Stainless steel, Polycarbonate and Resin Crowns / Veneers & fiber post systems.
14	**Pediatric Endodontics**	i.	Primary Dentition - Diagnosis of pulpal diseases including recent advances and armamentarium
15		ii.	Management - Pulp capping, Pulpotomy, Pulpectomy (Materials & Methods)
CLINICAL WORK			
1	Case history discussion with patient demonstration		
2	Assessment of child behavior		
3	Caries risk assessment		
4	Comprehensive treatment planning		
5	Oral rehabilitation of patients		
6	Oral rehabilitation of patients		
7	Oral rehabilitation of patients		
8	Oral rehabilitation of patients		
9	Case presentation		

10	Assignment

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures	**-**	
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**5**	
4. Team teaching	**-**	
5. Role Play	**-**	
6. Case Based discussion	**10**	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients	**10**	
2. Pre-Clinical laboratories		
3. Clinical Area – FDS	**55**	
4. Workplace based assessment methods	**-**	
5. Hospital Setup – MSRH	**-**	
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre		
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**20**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership	**-**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this course:

xii. Component 1 (CE) will be a continuous assessment with log books.

xiii. Component 2 will be an assignment for 50% weightage.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl No	Intended Learning Outcome	Component-1 (CE)	Component-2 (Assignment)
1	Plan comprehensive treatment based on caries risk assessment	X	X
2	Select appropriate restorative material for rehabilitation	X	
3	Provide endodontic treatment in primary teeth	X	

4	Rehabilitate children with severe early childhood caries	X	X

Both components will be moderated by a second examiner. Component 2 under Clinical will be co assessed by an external examiner.

5. Reassessment

17. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement and both components 1 and 2.
18. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
19. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Case Presentation
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Information center
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. J.R Pinkham (2005). Pediatric Dentistry - Infancy through adolescence. 4th Edition : Elsevier Science Ltd
2. Ralph E McDonald, David R. Avery, Jeffery A Dean (2004). Dentistry for the Child and Adolescent. 8th Edition: Mosby Inc
3. Raymond L. Braham, Merle E. Morris (19100). Textbook of Pediatric Dentistry. 2nd Edition: CBS Publishers
4. Richard J. Mathewson, Robert E. Primosch (1995). Fundamentals of *Pediatric Dentistry.* 3rd Edition: Quintessence Publishers

5. Angus C Cameron, Richard P Widmer (2003). Handbook of Pediatric Dentistry. 3rd Edition: Mosby Year Book Inc
6. Sidney B Finn (1973). Clinical Pedodontics. 4th Edition: AITBS publishers
7. Stephen H. Y. Wei (1988). Pediatric Dentistry: Total Patient Care. 1st Edition: Lea & Febiger,U.S

Recommended Reading

1. Ole Fejerskov, Edwina Kidd, Bente Nyvad (2008). Dental Caries: The Disease and Its Clinical Management. 2nd Edition: Blackwell Munksgaard
2. Gordon Nikiforuk (Volume 1 & 2) (19100). Understanding Dental Caries: Etiology And Mechanisms: Basic And Clinical Aspects. Understanding Dental Caries: Prevention. 1st Edition: Karger Publications
3. Martin E. J. Curzon, J. F. Roberts (1996). Kennedy's Pediatric Operative Dentistry. 4th Edition: Wright Publishers
4. Theodore Roberson, Harold Heymann and Edward Swift (2006). Sturdevant's Art and Science of Operative Dentistry. 4th Edition: Mosby Year Book Inc
5. Stephen Cohen (2006). Pathways of pulp. 9th Edition: Elsevier Science Ltd
6. John I Ingle, Bakland (2009). Endodontics. 6th Edition: Elsevier Science Ltd
7. N.O Harris, F.G Godoy (2008). Primary Preventive Dentistry. 7th Edition: Prentice Hall Publishers

IV.	**Course Organization**			
	Course Code	BDSPCE06		
	Course Title	Pediatric Comprehensive Oral Rehabilitation		
	Course Leader/s Name		Dr Dhananjaya	
	Course Leader Contact Details		**Phone:**	09845099943
			E-mail:	dhananjaya.pe.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Introduction to Implantology
Course Code	BDSPCE07
Department	Prosthodontics and Crown and Bridge
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This course equips students to select patients, plan treatment and assist in the rehabilitation of single missing tooth with implant prosthesis. The students will be trained to educate patients about the advantages and importance of replacement with implants. The students will learn about selection of cases, diagnostic aids, treatment planning and maintenance protocols of single tooth replacements by implants.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	65
Number of weeks	3
Department responsible	Prosthodontics and Crown and Bridge
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

1. Explain the role and significance of an implant in the replacement of Missing teeth.
2. Communicate the importance of implant replacement to patients.
3. Suggest appropriate diagnostic aids and investigations.
4. Prepare the patient to receive an implant.

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	Introduction to implants and its components	v.	Indications and brief historical review of dental implants, description of components and uses and advantages of implants, classification of implants.
2	Biology of Osseointegration	iii.	Healing of hard and soft tissues, basic principles of osseointegration, surgical anatomy of maxilla and mandible, various factors affecting osseointegration
3.	Diagnostic Aids	ix.	Selection of patients, diagnostic casts, radiographs, stents and other instruments used in the planning of implants along with introduction to implant software and digital radiography.
4	Examination, Diagnosis and Treatment Planning	x.	Intraoral examination – soft and hard tissue examination, Investigation, diagnosis and treatment planning
5	Instrumentation and sterilization	vi.	- Brief sterilization protocols, importance of asepsis and introduction to basic surgical instruments for osteotomy, instruments used for simple prosthodontic rehabilitation and implant maintenance.
6.	Prosthodontic rehabilitation	vii.	Outline of prosthodontic protocols including impression procedures, basics of implant loading, types of implant prosthesis based on retention and design, follow up and maintenance.

CLINICAL WORK	
1	Case history discussion with patient demonstration
2	Interpretation of diagnostic casts and Radiography
3	Sterilization and infection control practices
4	Basic surgical protocols and instrumentation
5	Patient preparation
6	Observation of implant placement
7	Observation of Prosthodontic protocols
8	Maintenance and Follow up of Patients

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures/		
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**6**	
4. Team teaching		
5. Case based discussion	**9**	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients	**30**	
2. Pre-Clinical laboratories		

3. Clinical Area – FDS	**35**	
4. Workplace based assessment methods		
5. Hospital Setup – MSRH		
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre		
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**20**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership		
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**100**	

4. Method of Assessment

There are two components for assessment in this Course:

xiv. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

xv. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl No	Intended Learning Outcome	Component-1 (CE)	Component-2 (Assignment)
1.	Explain the role and significance of an implant in the replacement of missing teeth.	x	x
2.	Communicate the importance of implant replacement to patients.	x	
3.	Suggest appropriate diagnostic aids and investigations	x	
4.	Prepare the patient to receive an implant	x	x

Both components will be moderated by a second examiner.

5. Reassessment

20. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
21. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.

23.

22. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject	
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre	
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment	
3.	Critical Skills	Case Based Discussion, Assignment	
4.	Analytical Skills	Class room lectures	
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment	
6.	Practical Skills	Clinical posting	
7.	Group Work	Case Based Discussion, Small Group discussion	
8.	Self-Learning	Assignment, Clinical posting, Information Centre	
9.	Written Communication Skills	Assignment	
10.	Verbal Communication Skills	Clinical posting	
11.	Presentation Skills	Case Presentation	
12.	Behavioral Skills	Clinical posting	
13.	Information Management	Assignment, Information Centre	
14.	Personal Management	Clinical posting	
15.	Leadership Skills	Group discussion	

III. Course Resources

Class Notes

Essential Reading

1. Carl E. Misch (1st printed in 2008, reprinted in 2013), 3rd, Mosby (an imprint of Elsevier)
2. Linkow (1990) Implant Dentistry Today, A Multi-disciplinary Approach (3 volumes),Piccin, Italy

Recommended Reading

1. **Charles M. Weiss, Adam Weiss (2001), Principles and Practice of Implant Dentistry, 1st, Mosby Publishers**
2. **Richard Palmer, Brian J. Smith, Leslie C. Howe, Paul J. Palmer(1st printed in 2002, reprinted in 2005), Implants in Clinical Dentistry**
3. **Charles A. Babbush(2001) Dental Implants: The Art and Science W.B. Saunders Company**
4. **Sargon Lazarof, Sumiya Hobo, Hassam Mowzari (1998), The Immediate Load Implant System uintessence Publishing Co.Ltd., Tokyo**

5. **Ralph V. Mc. Kinney (1991), Endosteal Dental Implant, Mosby Year Book**

IV.	**Course Organization**			
	Course Code	BDSPCE07		
	Course Title	Introduction to Implantology		
	Course Leader/s Name		Dr. Vaishali	
	Course Leader Contact Details		**Phone:**	9620912255
			E-mail:	Vaishali.pr.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Basics of Fixed Partial Dentures
Course Code	BDSPCE08
Department	Prosthodontics and Crown and Bridge
Faculty	Dental Sciences

I. Course Summary

1. This Course aims to equip the students to manage partial edentulism using simple single/multiple unit fixed prosthodontics.

The student will be trained to assess, diagnose, plan treatment for simple clinical scenarios in fixed prosthodontics. They will also be trained on the fundamentals of anterior and posterior teeth preparations for simple single and multi-unit FPDs. The students will rehabilitate the partially edentulous patient requiring simple single and multi-unit FPDs.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Prosthodontics and Crown and Bridge
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

Sl.No.	Intended Learning Outcome
1	Demonstrate pre- clinical steps for anterior and posterior single and multi- unit fixed prosthodontics
2	Propose treatment plan to rehabilitate the partially edentulous patient using a multidisciplinary approach
3	Demonstrate clinical steps for anterior and posterior single and multi-unit fixed prosthodontics
4	Deliver the simple single and multi-unit FPDs to the patient

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	Introduction to basics of fixed prosthodontics	i.	Parts of FPD, Patient selection criteria and available materials and techniques to treat the partially edentulous patient
2	Principles of tooth preparation	i.	Biologic
3		i.	Mechanical
4		ii.	Esthetic
5	Abutment evaluation and selection	i.	Evaluation and treatment of abutment teeth
6		ii.	Selection of abutment teeth
7	Steps in Tooth preparation for single cast metal crown	i.	Advantages and Disadvantages Indications Contraindications Armamentarium and tooth preparation
8	Steps in Tooth preparation for partial veneer crowns	i.	Advantages and Disadvantages Indications Contraindications Armamentarium and tooth preparation
9		ii	Multi-unit bridge tooth preparations and Pier abutments
10	Steps in Tooth preparation for All ceramic crowns	i.	Advantages and Disadvantages Indications Contraindications Armamentarium and tooth preparation
11	Tissue management and impression making	i.	Gingival retraction
12		ii	Fluid control
13		iii	Impressions in FPD
14	Trouble-shooting in FPD	i	Management of clinical failures in FPD
15		ii	Management of Laboratory failures in FPD
PRE - CLINICAL WORK			
1	Tooth preparation on plaster models to show steps in preparation for anterior PFM crown		
2	Tooth preparation on plaster model to show steps in preparation for posterior cast metal crown		
3	Tooth preparation on mounted typodont teeth for single unit anterior PFM crown		
4	Tooth preparation on mounted typodont teeth for 3-unit posterior PFM crowns		
5	Tooth preparation on mounted typodont teeth for single unit anterior All ceramic crown		
CLINICAL WORK			

6	Case history taking and abutment evaluation
7	Tooth preparation of anterior tooth for single unit PFM restoration
8	Tooth preparation of posterior tooth for single unit cast restoration
9	Demonstration of gingival retraction procedure and impression procedures in FPD
10	Assignment

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures	**-**	
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**12**	
4. Team teaching	**-**	
5. Role Play	**-**	
6. Case based discussion	**3**	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients	**15**	
2. Pre-Clinical laboratories	**20**	
3. Clinical Area – FDS	**30**	
4. Workplace based assessment methods	**-**	
5. Hospital Setup – MSRH	**-**	
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre		
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**20**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership	**-**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

xvi. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

vii. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	Intended Learning Outcome	Type of Assessment	
		Component-I (CE)	Component-II (Assignment)
1	Demonstrate pre- clinical steps for anterior and posterior single and multi- unit fixed prosthodontics	X	X
2	Demonstrate clinically steps for anterior and posterior single and multi-unit fixed prosthodontics	X	X
3	Propose treatment plan to rehabilitate the partially edentulous patient using a multidisciplinary approach	X	X
4	Deliver the simple single and multi-unit FPDs to the patient		X

Both components will be moderated by a second examiner.

5. Reassessment

1. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
2. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
3. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre

	9.	Written Communication Skills	Assignment	
	10.	Verbal Communication Skills	Clinical posting	
	11.	Presentation Skills	Case Presentation	
	12.	Behavioral Skills	Clinical posting	
	13.	Information Management	Assignment, Information Centre	
	14.	Personal Management	Clinical posting	
	15.	Leadership Skills	Group discussion	

III. Course Resources

Class Notes

1. Contemporary fixed prosthodontics : Rosenstiel Stephen F. 2nd edition. Mosby.
2. Fundamentals of fixed prosthodontics: Herbert T. Shillingburg; Sumiya Hobo, 3rdf edition. Quintessence books.
3. Dental laboratory procedures. In Fixed partial Dentures: Rhodes. Rudd and Murrow; volume two .Mosby

Recommended Reading

1. Johnson's Modern Practice In Fixed Prosthodontics : Dykema Goodacre Phillips, 4th Edition ; Saunders
2. M..Fradeani ,G. Barducci Esthetic rehabilitation In Fixed Prosthodontics : volume 2
3. F. Bassi, S. carossa ,G. Gassino :Advances in clinical Prosthodontics, Piccin

IV.	**Course Organization**			
	Course Code	BDSPCE08		
	Course Title	Basics of Fixed Partial Dentures		
	Course Leader/s Name		Dr Gayathri Devi	
	Course Leader Contact Details		**Phone:**	9886762183
			E-mail:	Gayathridevi.pr.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Aesthetic Dentistry
Course Code	BDSPCE09
Department	Conservative Dentistry & Endodontics
Faculty	Dental Sciences

I. Course Summary

1 Aim and Summary

This Course aims to train students develop aesthetic protocols and perform simple esthetic procedures relevant to patient requirement.

The students will be trained on principles of aesthetics, assess patient requirements and perform direct anterior and posterior aesthetic restorations including tooth Whitening Procedures.

2 Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Conservative Dentistry & Endodontics
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1 . Intended Course Learning Outcomes (ILO)

At the end of this Course , the student will be able to:

Sl No	Intended learning outcomes
1	Discuss the principles of aesthetic rehabilitation
2	Explain Basic Concepts of Adhesion
3	Demonstrate Direct anterior and posterior aesthetic restorations on models
4	Perform Direct anterior and posterior aesthetic restorations and Tooth Whitening procedures on patients

2.Course Contents

Theory

Lesson No.	Chapter	Lesson topics
1.	Fundamentals of esthetics	Light and shadow, the principals of colour – hue, chroma, value, opacity, translucency, depth, Principle of form – illusion, law of face, alteration of face.
2.	Basic concept of adhesion, Enamel Adhesion, Dentin Adhesion	Development of dentin bonding systems, Types of esthetic restorative materials such as glass ionomers, composites, ceramics.
3.	Direct Anterior / Posterior composite restorations ,including veneer	Principles of tooth preparation
4.	Discoloration of teeth	Principles of Management
Practicals		
1. Tooth Preparation for direct restorations on models		
Clinicals		
1.Performing esthetic restorations-Anterior/Posterior on patients		
2.Managing tooth discolorations on patients		

2. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures		
2. Symposium/panel discussion		
3. Small Group discussion		
4. Team teaching		
5. Role Play/Case based discussion	**15**	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients	**5**	
2. Pre-Clinical laboratory	**20**	
3. Clinical Area – FDS	**40**	
4. Workplace based assessment methods		
5. Hospital Setup – MSRH		
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	

8. Advanced Learning Centre		
9. Projects	-	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	-	
Self-directed learning		**30**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	-	
3. Workshops	-	
4. Information Centre	**10**	
5. Observership		
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4 .Method of Assessment

There are two components for assessment in this Course:

viii. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

xix. Component 2 will be an assignment for 50% weightage

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

	Intended Learning Outcome	**Component-I (CE)**	**Component-II (Examination)**
1	Discuss the principles of aesthetic rehabilitation	X	
2	Explain Basic Concepts of Adhesion	X	
3	Demonstrate Direct anterior and posterior aesthetic restorations on models	X	
4	Perform Direct anterior and posterior aesthetic restorations and Tooth Whitening procedures on patients	X	X

Both components will be moderated by a second examiner.

5.Reassessment

1. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
2. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.

3. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6.Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Case Presentation
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion

Class Notes

Essential Reading

1. Aschheim, K. and Dale, B. (2001). Esthetic dentistry. St. Louis: Mosby.
2. Freedman, G. (2012). Contemporary esthetic dentistry. St. Louis, Mo.: Mosby.
3. Goldstein, R. (1976). Esthetics in dentistry. Philadelphia: Lippincott.
4. Jordan, R. (1993). Esthetic composite bonding. St. Louis: Mosby-Year Book.
5. Paravina, R. and Powers, J. (2004). Esthetic color training in dentistry. St. Louis, Mo.: Elsevier Mosby.
6. Rufenacht, C. (2000). Principles of esthetic integration. Chicago: Quintessence Pub. Co.

Recommeded Reading

1. Terry, D., Geller, W. (2013). Esthetic & restorative dentistry. Chicago: Quintes Co.

2. Touati, B., Miara, P. and Nathanson, D. (1999). Esthetic dentistry and ceramic London: Martin Dunitz.

IV.	**Course Organization**			
	Course Code	BDSPCE09		
	Course Title	Esthetic Dentistry		
	Course Leader		Dr. Indiresha H N	
	Course Leader Contact Details		**Phone:**	9886366115
			E-mail:	indiresha.cd.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Practice Based Endodontics
Course Code	BDSPCE10
Department	Conservative Dentistry & Endodontics
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This Course aims to equip students with competencies in endodontics to manage irreversible diseases of the pulp related to anteriors and premolars.

The students will be trained on the fundamental concepts of endodontics including armamentarium, case selection, pain and infection management. They will be equipped to perform root canal instrumentation and obturation on premolars including post treatment follow up.

2. **Course Size and Credits**:

Number of credits	04
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Department of Conservative Dentistry & Endodontics
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass.
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching, Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

At the end of this Course , the student will be able to:

Sl No	Intended Learning Outcome
1	Discuss the fundamental concepts of endodontic instrumentation
2	Select endodontic instruments and materials for the given case
3	Demonstrate canal instrumentation and obturation on extracted premolar
4	Perform root canal treatment on patients while managing pain and infection

2. Course Contents

THEORY :

LESSON NO	Chapter		Lesson Topics
1.	Root Canal Morphology	iii.	Common Canal configurations and variations in internal anatomy of anterior teeth and premolars
		iv.	Apical third canal anatomy and its significance in endodontic therapy
2.	Access Cavity Preparation	iii.	Objectives of access cavity preparation, Guidelines to access cavity preparation, Concept of straight line access
		iv.	Armamentarium, basic outline shapes of access cavity for premolar, steps in access cavity preparation
3.	Introduction to rotary Endodontics	ii.	Introduction to Ni-Ti instruments, motions of instrumentation, armamentarium, rotary instruments commonly used, concept of greater taper files
		iii.	Fundamental concepts of rotary endodontics, glide path, canal patency, guidelines to the usage of rotary endodontic instruments
4.	WL determination and Cleaning and shaping using rotary endodontics	i.	Techniques of working length determination
		ii	Crown down technique, hybrid technique, orifice enlargement
		iii.	Management of curved canals, pre-curving of files
5.	Obturation in Endodontics	ii.	Obturation Techniques
		iii.	Recent advances
Pre-Clinical Work			
1	Endodontic Case history discussion		

2	Access Cavity Preparation on extracted teeth – anterior and premolars
3	Rubber Dam Placement
4	Working length techniques demonstration and performing on extracted teeth
5	Hand instrumentation of root canals on extracted premolars
6	Rotary instrumentation of root canals on extracted premolars
7	Obturation of cleaned and shaped extracted teeth

Clinical work

1	Assisting and observation of endodontic cases
2	Performing root canal treatment on patients

3. Course Teaching and Learning Methods

Teaching and Learning Methods		Duration in Hours
Theory		15
1. Lectures		
2. Symposium/panel discussion		
3. Small Group discussion		
4. Team teaching		
5. Role Play		
6. Case Based Discussions	5	
Preclinical/Clinical Work		65
1. Demonstration using ICT /Physical Models / Patients	5	
2. Pre-Clinical laboratory	25	
3. Clinical Area	35	
4. Workplace based assessment methods		
5. Hospital Setup – MSRH		
6. Field work/dental camp		
7. Outreach centres		
8. Advanced Learning Centre		
9. Projects		
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE		
Self-directed learning		20
11. Assignment	10	
12. Conferences/ seminars/CDE's		
13. Workshops		
14. Information Centre	10	
15. Observership		
Term Tests, Laboratory Examination/Written Examination, Presentations		5
Total Duration in Hours		105

4 . Method of Assessment

There are two components for assessment in this Course:

i. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

ii. Component 2 will be an assignment for 50% weightage.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No	Intended Learning Outcome	Type of Assessment	
		Component-I (CE)	Component-II (Assessment)
1	Discuss the fundamental concepts of endodontic instrumentation	X	
2	Select endodontic instruments and materials for the given case	X	
3	Demonstrate canal instrumentation and obturation on extracted premolar	X	
4	Perform root canal treatment on patients while managing pain and infection	X	X

Both components will be moderated by a second examiner.

4. Reassessment

24. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
25. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
26. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

5.Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
31.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
32.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
33.	Critical Skills	Case Based Discussion, Assignment
34.	Analytical Skills	Class room lectures
35.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
36.	Practical Skills	Clinical posting
37.	Group Work	Case Based Discussion, Small Group discussion
38.	Self-Learning	Assignment, Clinical posting, Information Centre

39.	Written Communication Skills	Assignment
40.	Verbal Communication Skills	Clinical posting
41.	Presentation Skills	Case Presentation
42.	Behavioral Skills	Clinical posting
43.	Information Management	Assignment, Information Centre
44.	Personal Management	Clinical posting
45.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. Grossman. L, Oliet. S and Del Rio. C (1988) Endodontic practice. 12th ed.Philadelphia: Lea & Febiger.
2. Hargreaves K, Cohen. S and Berman. L (2011) Cohen's Pathways of the pulp. 6 th ed.St. Louis, Mo.: Mosby Elsevier.
3. John I. Ingle , Leif K. Bakland , J. Craig Baumgartner (2008) Ingle's Endodontics 6. Hamilton, ON: BC Decker.

Recommended Reading

1. Walton. R and Torabinejad, M (2009) Endodontics. St. Louis, Mo.: Saunders/Elsevier.
2. Gulabivala. K and Ng. Y .Endodontics. Elsevier Publ

IV.Course Organisation			
Course Code	BDSPCE10		
Course Title	Practice Based Endodontics		
Course Leader/s Name		Dr. Poornima Ramesh	
Course Leader Contact Details		**Phone:**	9886164402
		E-mail:	poornima.cd.ds@msruas.ac.in
Course Specifications Approval Date		July 2018	
Next Course Specifications Review Date:		July 2022	

Course Title	Private Practice Management
Course Code	BDSPCE11
Department	Public Health Dentistry
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This course equips students with skills and competencies essential to establish and manage private dental practice.

The students are trained on the considerations for choosing location, type and design of practice emphasizing on the engineering and esthetic aspects. They are trained on the strategies to be adopted for procuring equipment, inventory management, marketing and pricing. They are also trained on nuance of practice organization, patient and dental team management.

2. **Course Size and Credits**:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Public Health Dentistry
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

Sl.No.	Intended Learning Outcome
1	Discuss the considerations for location, type and design for setting dental practice
2	Discuss the facets of practice organization
3	Suggest strategies for equipment and inventory management
4	Suggest strategies for marketing and pricing in dental practice

2. Course Contents

Lesson	Chapter	Lesson Topic
1	Career options within dentistry	General dental practice, Specialist, Salaried practice, industry options, Navy, Army, within corporate body, Community dental practice, Academia, Hospital dentistry, Research
2	Tips on writing and building Curriculum Vitae	Formats, options, references
3	Tips on writing application and facing interview	Written communication skills and interview skills
4	Dental Health Care Delivery System	Structure, location, types of practice and stake holders
5	Managerial areas in Private Practice Management	Equipment management, Inventory Management, Financial management, Infection control, staff management, marketing and pricing
6	Regulations for private practice	Registrations, MOU's, Certification requirements from Government, Private and Apex Body
7	Patient management skills	Skills to increase psychological accessibility with patients
8	Entrepreneurial aspects of dental practice	Practice building, business of practice, out of the box thinking for improving revenues

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures/ Guest lectures	**-**	
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**15**	
4. Team teaching	**-**	
5. Role Play	**-**	
Practical /clinical Work		**35**
1. Demonstration using ICT /Physical Models / Patients	**15**	
2. Pre-Clinical laboratories	**-**	
3. Clinical Area – FDS	**-**	
4. Workplace based assessment methods	**-**	
5. Hospital Setup – MSRH	**-**	
6. Field visit/dental camp	**10**	
7. Outreach centres	**-**	
8. Advanced Learning Centre	**-**	
9. Projects	**10**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**50**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership	**30**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

iii. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

iv. Component 2 will be an assignment for 50% weightage.

In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	**Intended Learning Outcome**	**Type of Assessment**	
		Component-1 (CE)	**Component-2 Assignment**
1	Discuss the considerations for location, type and design for setting dental practice	X	X

2	Discuss the facets of practice organization	X	X
3	Suggest strategies for equipment and inventory management	X	X
4	Suggest strategies for marketing and pricing in dental practice	X	X

Both components will be moderated by a second examiner.

5. Reassessment

1. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
2. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
3. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Small Group discussion, Information Centre, Guest lecture
2.	Understanding	Small Group discussion, Information Centre, Assignment, Guest lecture, Observership
3.	Critical Skills	Assignment
4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Small Group discussion, Assignment
6.	Practical Skills	Field visits
7.	Group Work	Small Group discussion
8.	Self-Learning	Assignment
9.	Written Communication Skills	Assignment
10	Verbal Communication Skills	Group discussion
11	Presentation Skills	Assignment
12	Behavioral Skills	Group discussion Assignment
13	Information Management	Assignment, Information Centre
14	Personal Management	Assignment
15	Leadership Skills	Group discussion
16		

III. Course Resources

Class Notes

Essential Reading

1. George M. Gluck and Warren M. Morganstein(2002) Jong's community dental health,5th edition

2. Burt BA & Eklund SE. (2005), Dental practice and community, 6th ed, New York. Elseiver.
3. Margaret Seward(1990),Into dental practice, British Dental Journal

Recommended Reading

1. F.J. Trevor Burke and Ruth Freeman (2004), Preparing for Dental Oractice, 1st ed,Oxford University Press.

2. Fritz Schon(1972),Teamwork in the Dental Practice,Buch-und Zeitschriften-Verlag "Die Quintessenz",Berlin and Chicago.

IV.	**Course Organization**			
	Course Code	BDSPCE11		
	Course Title	Private Practice Management		
	Course Leader/s Name		Dr R Ranadheer	
	Course Leader Contact Details		**Phone:**	9449481571
			E-mail:	ranadheer.pl.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Data Analysis in Health Care Research
Course Code	BDSPCE12
Department	Public Health Dentistry
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

The aim of the course is to equip students to analyse data related to health care research using appropriate data analysis tools. The students will be trained to differentiate and analyse different types of data emphasizing on quantitative data. The students will also be trained to interpret the data and present choosing appropriate data presentation methods.

2. **Course Size and Credits**:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Public Health Dentistry
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the course, the student should be able to:

Sl.No.	Intended Learning Outcome
1	Demonstrate proficiency in using data analysis tools
2	Select statistical tests relevant to type of data
3	Analyse the given data using statistical tools
4	Present the obtained data in appropriate presentation methods and interpret

2 Course Contents

Theory

LESSON NO	Chapter		Lesson Topics
1	Introduction to Biostatistics	ii.	Uses and its application in dental health research
2	Data	v.	Types and sources of data
3		vi.	Scales of data measurement
4	Data collection methods	v.	Research methodology including steps required before and after data collection
5		vi.	Data collection methods-Qualitative, quantitative
6	Essentials before data analysis– Quantitative	iv.	Data collection and management methods-Quantitative
7		v.	Use of MS excel, data cleaning
8		vi.	Basics of data analysis using statistical software
9	Data analysis	vii.	Parametric data analysis
10		iii.	Applications of non parametric data analysis
11		ix.	Software in analyzing data
12		x.	Basics of data analysis using SPSS
13	Data presentation	iv.	Creating Charts
14		v.	Creating Graphs

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures	-	
2. Symposium/panel discussion	-	
3. Small Group discussion	**15**	
4. Team teaching	-	
5. Role Play	-	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients/ soft ware	**55**	
2. Pre-Clinical laboratories	-	
3. Clinical Area – FDS	-	
4. Workplace based assessment methods	-	
5. Hospital Setup – MSRH	-	
6. Field work/dental camp	-	
7. Outreach centres	-	
8. Advanced Learning Centre	-	
9. Projects	**10**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	-	
Self-directed learning		**20**
1. Assignment	**10**	

2. Conferences/ seminars/CDE's	-	
3. Workshops	-	
4. Information Centre	**10**	
5. Observership	-	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this course:

v. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

vi. Component 2 will be an assignment for 50% weightage.

In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	Intended Learning Outcome	Type of Assessment	
		Component-1 CE	Component- 2 Assignment
1	Demonstrate proficiency in using data analysis tools	X	X
2	Select statistical tests relevant to type of data	X	X
3	Analyse the given data using statistical tools	X	X
4	Present the obtained data in appropriate presentation methods and interpret	X	X

Both components will be moderated by a second examiner.

5. Reassessment

27. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
28. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
29. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Small Group discussion, Information Centre, Demonstrations using computer
2.	Understanding	Small Group discussion, video demonstration, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment

4.	Analytical Skills	Assignment
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Demonstrations using computer, Field visits
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Group discussion
11.	Presentation Skills	Report presentation
12.	Behavioral Skills	Group discussion and demonstration
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Assignment
15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. NSN Rao, NS Murthy (2008) Applied Statistics in Health Sciences.2nd Edition: Jp Medical Publishers
2. Park K. (2017) Park text book of preventive and social medicine, 24th edn. Banarasidas Bhanot Publishers.
3. Research methodology: methods & techniques Kothari C.R., Gaurav Garg (2013) New Age International Publishers , 3rd edition ISBN-13: 978-8122436235

Recommended Reading

1. Jekel J.F., Katz D.L., Elmore J.G., Wild D.M.G. (2007) Epidemiology, Biostatistics and Preventive Medicine. 3rd ed. Saunders Elsevier publishers, Philadelphia.
2. Jay S. Kim, Ronald J. Dailey (2007) Biostatistics for Oral Healthcare, Wiley-Blackwell ISBN: 978-0-8138-2818-3

IV.	**Course Organization**		
	Course Code	BDSPCE12	
	Course Title	Public Health Dentistry	
	Course Leader/s Name	Dr Shwetha KM	
	Course Leader Contact Details	**Phone:**	9845224049
		E-mail:	shwetha.pl.ds@msruas.ac.in
	Course Specifications Approval Date	July 2018	
	Next Course Specifications Review Date:	July 2022	

Course Title	Surgical extraction of teeth.
Course Code	BDSPCE13
Department	Oral and Maxillofacial Surgery
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

The aim of the course is to equip the students with the competencies to manage surgical / open method of extraction.

The students will be trained to select and use the appropriate equipments and instruments required for surgical extraction, handle difficult extractions as well as gain exposure to surgical removal of partially or completely impacted teeth. They will also be trained to recognize, prevent and manage complications arising during and/ or after the procedure.

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2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Oral and Maxillofacial Surgery
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the course, the student should be able to:

1. Discuss the indications and underlying principles in the surgical extraction of teeth.
2. Select cases for open extraction based on clinical and radiological assessment.
3. Demonstrate the techniques of surgical removal of teeth.
4. Manage the complications related to surgical removal of teeth.

2. Course Contents

THEORY

LESSON NO	Chapter	Lesson Topics
1. 1	Case history	1. Chief complaint 2. General Physical Examination 3. local examination 4. Investigations 5. Diagnosis
2. 2	Assessment of difficulty level of extraction.	1. Clinical assessment 2. Radiological assessment
3.	Surgical equipments	1. Micromotor and Surgical handpiece 2. Electrocautery. 3. Suction apparatus
4.	Surgical instruments	1. Extraction forceps and elevators. 2. Principles of elevators. 3. Surgical burs. 4. Chisel and Mallet 5. Suturing instruments and suture materials. 6. Principles of suturing
5.	Surgical procedure - Open method of tooth extraction	1. Indications and contraindications. 2. Types of incisions. 3. Various Flap designs. 4. Osteotomy procedure. 5. Odontectomy. 6. Haemostasis and haemostatic agents.
6.	Post operative care	9. Post operative instructions 10. Infection control. 11. Assessment and management of post operative complications
CLINICAL WORK		
1	Patient complete case history	
2	Instrument selection and its applications	
3	Patient and operator chair position – Ergonomics	
4	Different types of incision and Suturing techniques on models	
5	Demonstration of surgical removal of the teeth.	

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**10**
1. Lectures	**-**	
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**5**	
4. Team teaching	**-**	
5. Role Play	**-**	
6. Case based discussion	**5**	
Practical /clinical Work		**75**
1. Demonstration using ICT /Physical Models / Patients	**10**	
2. Pre-Clinical laboratories		
3. Clinical Area – FDS	**55**	
4. Workplace based assessment methods	**-**	

5. Hospital Setup – MSRH	-	
6. Field work/dental camp	-	
7. Outreach centres	**10**	
8. Advanced Learning Centre	-	
9. Projects	-	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	-	
Self-directed learning		**15**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	-	
3. Workshops	-	
4. Information Centre	**5**	
5. Observership	-	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this course:

vii. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

viii. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl no	Intended learning outcome	Component 1 CE	Component 2 Assignment
1	Discuss the indications and underlying principles in the surgical extraction of teeth.	**X**	**X**
2	Select cases for open extraction based on clinical and radiological assessment.	**X**	
3	Demonstrate the techniques of surgical removal of teeth.	**X**	
4	Manage the complications related to surgical removal of teeth.	**X**	**X**

Both components will be moderated by a second examiner.

5. Reassessment

1. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
2. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
3. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Case Presentation
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. Peterson's Principles of oral and maxillofacial surgery-MilloreMicheal, G.E.Gholi, Peter E Larsen, 2nd edition, vol. 1 & 2,B.C.Decker Publishers
2. Oral and maxillofacial surgery-Daniel M.Laskin, vol.1&2, AITBS Publishers
3. Textbook of oral and maxillofacial surgery-George Kruger, 6th Edition, Mosby
4. Oral and maxillofacial surgery-W.Harry Archer,5th Edition, vol. 1 & 2, W.B.Saunders Company
5. Text book of oral and maxillofacial surgery-Neelima Mallik, 3rd edition, Jaypee brothers

Recommended Reading

1. Impacted teeth – John.F.Helferick, Charles C., Rocklin D Alling, W.B.Saunders Company
2. Handbook of Third Molar Surgery- George Dimitroulis, Wright Publishers

IV.	**Course Organization**			
	Course Code	BDSPCE13		
	Course Title	Oral and Maxillofacial Surgery		
	Course Leader/s Name		Dr Vineeth Kumar	
	Course Leader Contact Details		**Phone:**	9620100084
			E-mail:	vineeth.os.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Management of medically compromised patients
Course Code	BDSPCE14
Department	Oral and Maxillofacial Surgery
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

The aim of the course is to equip the students to manage medically compromised patients in dental practice. The students will be trained to recognize and manage systemic conditions and their implications on the proposed dental procedures that dentists might encounter in daily practice. They will also be trained to prevent potential complications.

2. **Course Size and Credits**:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Oral and Maxillofacial Surgery
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

Intended Course Learning Outcomes (ILO)

1. Discuss the importance of case history in medically compromised patients.
2. Develop treatment protocols specific to each medically compromised condition.
3. Demonstrate the management of any given medically compromised patient.
4. Apply management protocols for dental treatment in medically compromised patients.

2. Course Contents - Theory

Chapter	Lesson Topics
Case History	Chief complaint, Medical history and investigations and classification of physical status
Diabetes Mellitus	Definition, Pathophysiology,and Classification of Diabetes Mellitus
	Normal Blood Sugar levels, preoperative investigations,Intra and postoperative management,Complications.
Renal Diseases	Introduction, Pathophysiology
	Preoperative Investigations, Intra and Postoperative Management
Antiplatelet and Anticoagulants	Introductions, Indications, Oral antiplatelet and anticoagulant drugs
	Protocols for treating the patients on blood thinners
	Preoperative investigations, Intra and Postoperative Management
Cardiovascular Diseases	Introduction, Classification of physical status, stress reduction protocols, investigations, Intra and postoperative Management

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures/	**2**	
2. Symposium/panel discussion		
3. Small Group discussion	**10**	
4. Team teaching	**3**	
5. Role Play		
Practical /clinical Work		**55**
1. Demonstration using ICT /Physical Models / Patients		
2. Pre-Clinical laboratories		
3. Clinical Area – FDS	**35**	
4. Workplace based assessment methods	**10**	
5. Hospital Setup – MSRH	**10**	
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre		
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**30**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership	**10**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

ix. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

x. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl No	Intended Learning Outcome	Component-1 (CE)	Component-2 (Assignment)
1	Discuss the importance of case history in medically compromised patients.	x	x
2	Develop treatment protocols specific to each medically compromised condition.	x	x
3	Demonstrate the management of any given medically compromised patient.	x	x
4	Apply management protocols for dental treatment in medically compromised patients.	x	x

Both components will be moderated by a second examiner.

5. Reassessment

30. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
31. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
32. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Case Presentation

	12.	Behavioral Skills	Clinical posting
	13.	Information Management	Assignment, Information Centre
	14.	Personal Management	Clinical posting
	15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. Cawsen and Scully(2005), ***Medical Problems in Dentistry***Elsevier Churchill Living stone Limited 2005, UK
2. Stanley Malamed (2014), ***Medical Emergencies in Dental Office 7th Edition***, Elsevier
3. Neelima Anil Malik (2016), ***Text book of Oral and Maxillofacial Surgery***, Jaypee
4. Geoffrey Leslie Howe. (1990).The Extraction of Teeth. 2 nd Ed. John Wright.
5. Daniel M. Laskin (19100).Oral and Maxillofacial Surgery Vol 1 & 2. 2 nd Ed, Mosby.
6. Gustav O. Kruger(1979)Textbook of oral and maxillofacial surgery .

IV.	**Course Organization**			
	Course Code	BDSPCE14		
	Course Title	Management of medically compromised patients		
	Course Leader/s Name		Dr Prathibha Sridhar	
	Course Leader Contact Details		**Phone:**	09972028808
			E-mail:	prathibha.os.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Orthodontics for General Practitioners
Course Code	BDSPCE15
Department	Orthodontics
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This course aims to train the students to assess the case for orthodontic diagnosis, basic treatment planning and provide supplementary support to the orthodontist for successful orthodontic care.

The students will be trained to obtain complete case history and advise relevant investigation to arrive at orthodontic diagnosis. They will be trained to provide supplementary dental treatment prior to orthodontic therapy. They will be trained to assist the orthodontist and provide supportive care during orthodontic treatment. They will also be trained to be an intermediary between the patient and the orthodontist.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of semester weeks	3
Department responsible	Orthodontics
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching, Learning and Assessment

1. Intended Learning Outcomes(ILO)

After studying the course, the student should be able to:

No.	Intended Learning Outcome
1	Discuss the importance of case history, investigations in arriving at orthodontic diagnosis

2	Interpret the case history and investigation for orthodontic referral
3	Counsel patients for receiving Orthodontic treatment
4	Perform preliminary dental care prior to orthodontic therapy

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	Diagnosis and treatment planning in General orthodontics	iii.	Definition and scope of General Orthodontics Dentistry
2	Selection of the Patient	vii.	Importance of case history, personal history with general examination and extra oral examination
3		iii.	Intraoral examination – soft and hard tissue examination, Investigation, diagnosis and treatment planning
4	Behaviour management in General orthodontic Dentistry	xi.	Case History recording in Orthodontic Practice
5		xii.	Diagnostic Records in Orthodontic practice
6		iii.	Cephalometrics Records in Orthodontic practice
7	General Orthodontic Dentistry	iv.	Informed consent
8		xv.	Essential Diagnostic Aids
9		vi.	Supplementary Diagnostic Aids
10		vii.	Infection control in General orthodontic Dentistry

CLINICAL WORK	
1	Case history discussion with patient demonstration
2	Essential Diagnostic Aids
3	Supplementary Diagnostic Aids
4	Impression taking in Orthodontic patient
5	Fabrication of study models of patients
6	Cephalometric tracing of Patients
7	Observation and Assisting in Photographic Records
8	Case History Recording
9	Case presentation
10	Assignment

3. CourseTeaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures		
2. Symposium/panel discussion		
3. Case based Discussion	**9**	

4. Small Group discussion	**5**	
5. Team teaching		
6. Role Play	**1**	
Practical /clinical Work		**55**
1. Demonstration using ICT /Physical Models / Patients	**10**	
2. Pre-Clinical laboratories	**10**	
3. Clinical Area – FDS	**35**	
4. Workplace based assessment methods	**-**	
5. Hospital Setup – MSRH	**-**	
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre	**-**	
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**30**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership	**10**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this course:

xi. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

xii. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.no.	**Intended learning outcomes**	**Type of Assessment**	
		Component-I CE	**Component-II (Assignment)**
1	Discuss the importance of case history, investigations in arriving at orthodontic diagnosis	X	
2	Interpret the case history and investigation for orthodontic referral	X	X
3	Counsel patients for receiving Orthodontic treatment	X	
4	Perform preliminary dental care prior to	X	X

	orthodontic therapy		

Both components will be moderated by a second examiner.

5. Reassessment

1. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
2. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
3. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Case Presentation
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion

III. Course Resources

a. EssentialReading

1. Graber TM (2000) Orthodontics: Current principles and technique.3rd Edition, Mosby publishers.
2. Proffit William R (2000) Contemporary Orthodontics.2nd Edition, Mosby publishers.
3. White T C, Gardiner J H, Leikton BC (1976) Orthodontics for dental student.3rd Edition, Mac Millan India.
4. Adams C P, John S Kerr W (1990) Removable Orthodontic Appliances .6th Edition, Varghese Pub House.
5. Houston W.J (1992).A text book of Orthodontics.2nd Edition, Wright Pub.

b. Recommended Reading

1. Moyers Robert E (1988) Hand book of Orthodontics.4th Edition,Year book of medical publication
2. Graber,Vanarsdall and Vig : Orthodontics Current Principles and Techniques .5th Edition: Elsevier Publishers.

Journals:

1. Journal of Clinical Pediatric Dentistry
2. Journal of Indian Society of Pedodontics and Preventive Dentistry.
3. AJODO
4. Angle Orthodontist
5. Journal of Clinical Orthodontics
6. American Academy of Pediatric Dentistry
7. Seminars in Orthodontics

c. Websites

e. Other Electronic Resources

1. HELINET
2. EBSCO

IV. Course Organization

Course Code	BDSPCE15		
Course Title	Orthodontics for General Practitioners		
Course Leader/s Name		Dr Sunil Kumar M	
Course Leader Contact Details		**Phone:**	
		E-mail:	sunil.od.ds@msruas.ac.in
Course Specifications Approval Date		July 2018	
Next Course Specifications Review Date:		July 2022	

Course Title	Preventive Orthodontics
Course Code	BDSPCE16
Department	Orthodontics and Dentofacial Orthopedics
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This course intends to equip the students with knowledge in early preventive approach to different orthodontic anomalies. Students are taught a thorough diagnosis and treatment planning based on overall analysis of patient's condition.

2. Course Size and Credits:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Orthodontics and Dentofacial Orthopedics
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

1. Explain the need, significance of preventive orthodontic.
2. Identify clinical and radiographic indicators for early orthodontic treatment
3. Choose from various preventive procedures depending on the requirement of the case.
4. Design an appliance for space maintenance in case of early loss of deciduous teeth and justify the choice of appliance for space maintenance

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1.	Introduction	i.	Need for Preventive Orthodontics
2.	Early diagnosis	iv.	Clinical indicators
3.		ix.	Radiographic indicators
4.		x.	Study models.
5.	Preventive Orthodontic procedures	vii.	Predental procedure Parent education Oral hygiene, Caries prevention,
6.		iii.	Monitoring of primary dentition and transition stage
7.		ix.	Removal of supernumerary tooth Extraction of retained decided tooth
8.		x.	Restoration of decayed teeth
9.		xi.	Occlusal Equilibration
10.		xii.	Early detection of habits
11.		iii.	Tongue tie management
12.		iv.	Disking
13.		xv.	Locked permanent first molar
14.	Space control in Deciduous and mixed dentition	iii.	Definition, Planning for space maintainers, Space maintenance in maxillary and mandibular arch, Space maintenance in buccal segments
15.	Space Maintaining Appliance	i.	Indications, Classification Prerequisites for space maintainersChoice of space maintainers and fabrication.
		ii	Choice of space maintainers and fabrication.
PRE - CLINICAL WORK			
1	Fabrication of functional space maintainer on working model		
2	Fabrication of Distal shoe space maintainer on working model		
3	Fabrication of Transpalatal arch in the maxillary cast.		
4	Fabrication of Lingual arch in the mandibular cast.		
5	Fabrication of one habit breaking appliance.		
CLINICAL WORK			
6	Case history taking and radiographic evaluation of mixed dentition in transition phase.		
7	Impression making		
8	Fabrication and delivery of space maintainer.		
10	Assignment		

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
12. Lectures/	**8**	
13. Symposium/panel discussion	**-**	
14. Small Group discussion	**4**	
15. Team teaching	**3**	
16. Role Play	**-**	

Practical /clinical Work		**55**
1. Demonstration using ICT /Physical Models / Patients	**15**	
2. Pre-Clinical laboratories	**20**	
3. Clinical Area – FDS	**20**	
4. Workplace based assessment methods		
5. Hospital Setup – MSRH		
6. Field work/dental camp	**-**	
7. Outreach centres	**-**	
8. Advanced Learning Centre		
9. Projects	**-**	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	**-**	
Self-directed learning		**30**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	**-**	
3. Workshops	**-**	
4. Information Centre	**10**	
5. Observership	**10**	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

xiii. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

xiv. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl No	Intended Learning Outcome	Component-1 (CE)	Component-2 (Assignment)
1	Explain the need, significance of preventive orthodontic.	x	x
2	Identify clinical and radiographic indicators for early orthodontic treatment	x	x
3	Choose from various preventive procedures depending on the requirement of the case.	x	x
4	Design an appliance for space maintenance in case of early loss of deciduous teeth and justify the choice of appliance for space maintenance	x	x

Both components will be moderated by a second examiner.

5. Reassessment

1. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
2. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.

3. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Lectures, Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Lectures, Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Class room lectures
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Clinical posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Clinical posting
11.	Presentation Skills	Case Presentation
12.	Behavioral Skills	Clinical posting
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Clinical posting
15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

IV.	**Course Organization**			
	Course Code	BDSPCE16		
	Course Title	Orthodontics and Dentofacial Orthopedics		
	Course Leader/s Name		Dr Madhavi Naidu	
	Course Leader Contact Details		**Phone:**	
			E-mail:	madhavi.od.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Routine Tissue Processing
Course Code	BDSPCE17
Department	Oral Pathology and Microbiology
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

The aim of the course is to train the students in the field of routine tissue processing. The students will be trained in the techniques of routine tissue processing and staining for further examination of tissue under microscope. The student will be trained to perform various methods of tissue processing.

2. **Course Size and Credits**:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Oral Pathology and Microbiology
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

Sl. No.	Intended Learning Outcome
1	Explain the various methods of tissue processing
2	Prepare tissue sample for microscopic analysis and interpretation
3	Perform an appropriate staining technique for studying biological tissue specimens for microscopic study
4	Suggest remedies for troubleshooters during tissue processing

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	Introduction to routine tissue processing		Terminologies, definition and significance of tissue processing
2	Collection of samples		Ideal protocol of sample collection
3	Fixation		Definition, ideal properties of fixation, Factors affecting fixation, Classification of fixatives and principle of individual fixatives, advantages and disadvantages.
4	Tissue processing		Definition and types of tissue processing, Steps involved in the tissue processing
5	Dehydration		Definition, ideal properties, classification of dehydrating agents and principle
6	Clearing		Definition, ideal properties, classification of clearing agents and principle of individual agents
7	Embedding		Definition, ideal properties, classification of embedding medias
8	Sectioning & Staining		Microtome sectioning, Hematoxylin & Eosin staining procedure
9	Artefacts in routine tissue processing and their remedies		Predication, fixation, processing & staining artefacts
CLINICAL/ LABORATORY WORK			
1	Perform fixation of **three** biopsied tissues		
2	Perform routine tissue processing of **three** biopsied specimens		
3	Perform sectioning of the processed tissue and stain with H&E stain		
4	Microscopic analysis of the tissue specimen		

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures	-	
2. Symposium/panel discussion	-	
3. Small Group discussion	**8**	
4. Team teaching	-	
5. Role Play/ Slide discussion	**7**	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients	**20**	
2. Pre-Clinical laboratories	**45**	
3. Clinical Area – FDS	-	
4. Workplace based assessment methods	-	
5. Hospital Setup – MSRH	-	

6. Field work/dental camp	-	
7. Outreach centres	-	
8. Advanced Learning Centre	-	
9. Projects	-	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	-	
Self-directed learning		**20**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	-	
3. Workshops	-	
4. Information Centre	**10**	
5. Observership	-	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

xv. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

xvi. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	Intended Learning Outcome	Type of Assessment	
		Component-I CE	Component-II Assignment
1	Explain the principles of exfoliative cytology and their diagnostic applications	X	X
2	Prepare cytological smears for oral pathological lesions	X	X
3	Perform appropriate special staining procedure for diagnosis	X	X
4	Interpret and diagnose the underlying pathologic condition	X	X

Both components will be moderated by a second examiner

5. Reassessment

33. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
34. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.
35. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

The following skills are directly or indirectly imparted to the students in the following teaching and learning methods

Sl No	Curriculum and Capabilities Skills	How imparted during the subject
1.	Knowledge	Case Based Discussion, Small Group discussion, Information Centre
2.	Understanding	Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Assignment
4.	Analytical Skills	Case Based Discussion, Small Group discussion, Assignment
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Preclinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Laboratory posting, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Discussion/presentation
11.	Presentation Skills	Slide discussion/assignment
12.	Behavioral Skills	Laboratory posting
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Laboratory posting
15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. Bancroft JD, Gamble M. (2008) Theory and Practice of Histological Techniques, 6th ed, USA: Churchill Livingstone
2. Culling CFA, Allison RT, Barr WT. 19100 Cellular pathology techniques,4th edition, Butterworths and co publishers

Recommended Reading

1. Culling CFA, Allison RT, Barr WT. (19100) Handbook of histopathological and histochemical techniques, 4th ed, Butterworths and co publishers.
2. Freida LC,Christa H. 2009Histotechnology: A Self-Instructional Text (3rd Edition) College of American Pathologists.

3. Jamie M. Nowacek, BS, HT.Dako Laboratory manual.
4. Carleton, H.M., Drury, R.A.B. and Wallington, E.A., 1980. *Carleton's histological technique*. Oxford University Press, USA.
5. Kumar, K., Shetty, D.C. and Dua, M., 2012. Biopsy and tissue processing artifacts in oral mucosal tissues. *Int J Head Neck Surg*, *3*, pp.92-98.
6. Luna, L.G., 1992. Histopathologic methods and color atlas of special stains and tissue artifacts. Amer Histolabs Pub Dept.
7. Spurlock, B.O., Kattine, V.C. and Freeman, J.A., 1963. Technical modifications in Maraglas embedding. *The Journal of cell biology*, *17*(1), pp.203-207.
8. Wynnchuk, M., 2013. Minimizing artifacts in tissue processing: Part 2. Theory of tissue processing. *Journal of Histotechnology*

IV.	**Course Organization**			
	Course Code	BDSPCE17		
	Course Title	Routine Tissue Processing		
	Course Leader/s Name		Dr.Vanishri C Haragannavar	
	Course Leader Contact Details		**Phone:**	7204318001,
			E-mail:	vanishri.op.ds@msruas.ac.in
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	

Course Title	Exfoliative Cytology in Pathologic diagnosis
Course Code	BDSPCE18
Department	Oral Pathology and Microbiology
Faculty	Dental Sciences

I. Course Summary

1. Aim and Summary

This Course deals with the application of exfoliative cytology in the diagnosis of oral pathologic lesions. The students will be trained on the principles and procedures of exfoliative cytology. They will also be trained to perform exfoliative cytology and use appropriate staining procedures in diagnostic cytopathology.

2. **Course Size and Credits**:

Number of credits	4
Total hours of class room interaction during the semester	15
Number of clinical hours	90
Number of weeks	3
Department responsible	Oral Pathology and Microbiology
Course marks	Component 1 : CE - 50% weight Component 2: Assignment - 50% weight
Pass requirement	A minimum of 40% marks in component 1 and component 2 and overall 40% marks are required for a pass
Attendance requirement	100% attendance is mandatory to be eligible for examination.

II. Teaching , Learning and Assessment

1. Intended Course Learning Outcomes (ILO)

After studying the Course, the student should be able to:

Sl. No.	Intended Learning Outcome
1	Explain the principles of exfoliative cytology and their diagnostic applications
2	Prepare cytological smears for oral pathological lesions
3	Perform appropriate special staining procedure for diagnosis
4	Interpret and diagnose the underlying pathologic condition

2. Course Contents

THEORY

LESSON NO	Chapter		Lesson Topics
1	Introduction To Cytopathology		Historical evolution, Classification, Principles of cytology
2	Exfoliative cytology		Rationale, Advantages, disadvantages, uses, limitations, indications and contraindications
3	Diagnostic Cytopathology		Applications/ Role in Oral Pathology
4	Cytopreparatory techniques		Collection, Preparation, Staining and Interpretation of cytologic smears
5	Collection		Armamentarium, Fixation and fixatives used, Sampling devices and their types
6	Preparation of smear		Methods and procedure, causes for unstatisfactory smears
7	Staining		Types of stains- Hematoxylin and eosin, Papanicolaou, May-Grunwald-Giemsa (MGG), Periodic Acid Schiff (PAS) Principles and Steps involved
8	Interpretation and Diagnosis		Classification of cells, Qualitative and quantitative assessment
9	Troubleshooters in exfoliative cytology		Artefacts, Causes and remedies
CLINICAL/ LABORATORY WORK			
1	Selection of case for exfoliative cytology		
2	Sterilization and infection control practices		
3	Preparation of cytological smear		
4	Fixation protocol		
5	Selection of appropriate stain indicated for the case		
6	Staining protocol		
7	Interpretation of the findings		
8	Diagnosis		

3. Course Teaching and Learning Methods

Teaching and Learning Methods		**Duration in Hours**
Theory		**15**
1. Lectures	**-**	
2. Symposium/panel discussion	**-**	
3. Small Group discussion	**9**	
4. Team teaching	**-**	
5. Role Play	**-**	
6. Case based discussion	**6**	
Practical /clinical Work		**65**
1. Demonstration using ICT /Physical Models / Patients	**15**	
2. Pre-Clinical laboratories	**20**	
3. Clinical Area – FDS	**30**	

4. Workplace based assessment methods	-	
5. Hospital Setup – MSRH	-	
6. Field work/dental camp	-	
7. Outreach centres	-	
8. Advanced Learning Centre	-	
9. Projects	-	
10. Innovative methods – DOPS, mini CEX, OSCE/OSPE	-	
Self-directed learning		**20**
1. Assignment	**10**	
2. Conferences/ seminars/CDE's	-	
3. Workshops	-	
4. Information Centre	**10**	
5. Observership	-	
Term Tests, Laboratory Examination/Written Examination, Presentations	**5**	
Total Duration in Hours incl. assessment	**105**	

4. Method of Assessment

There are two components for assessment in this Course:

vii. Component 1 (CE) will be a continuous assessment with log books for 50% weightage.

viii. Component 2 will be an assignment for 50% weightage emphasing on case presentation for 2 cases.

The assessment questions are set to test the learning outcomes. In each component certain learning outcomes are assessed. The following table illustrates the focus of learning outcome in each component assessed:

Sl.No.	Intended Learning Outcome	Type of Assessment	
		Component-I CE	Component-II Assignment
1	Explain the principles of exfoliative cytology and their diagnostic applications	X	X
2	Prepare cytological smears for oral pathological lesions	X	X
3	Perform appropriate special staining procedure for diagnosis	X	X
4	Interpret and diagnose the underlying pathologic condition	X	X

Both components will be moderated by a second examiner.

5. Reassessment

36. A student who has not met the attendance requirement is required to re-attend class and satisfy the attendance requirement.
37. A student having met attendance requirement and passes in component-1, happens to fail in component-2 will be asked to re-submit assignment within 2 weeks.

38. The maximum number of such opportunities are limited and as per the academic regulations governing this course.

6. Achieving Learning Outcomes

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Sl No	Curriculum and Capabilities Skills	How imparted during the subject
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2.	Understanding	Case Based Discussion, Small Group discussion, Information Centre, Assignment
3.	Critical Skills	Case Based Discussion, Small Group discussion, Assignment
4.	Analytical Skills	Case Based Discussion, Assignment
5.	Problem Solving Skills	Case Based Discussion, Small Group discussion, Assignment
6.	Practical Skills	Clinical posting
7.	Group Work	Case Based Discussion, Small Group discussion
8.	Self-Learning	Assignment, Information Centre
9.	Written Communication Skills	Assignment
10.	Verbal Communication Skills	Case Based Discussion, Assignment presentation
11.	Presentation Skills	Case Presentation
12.	Behavioral Skills	Case Based Discussion
13.	Information Management	Assignment, Information Centre
14.	Personal Management	Case Based Discussion
15.	Leadership Skills	Group discussion

III. Course Resources

Class Notes

Essential Reading

1. Koss, L.G., Melamed, M.R.(2005) Koss' diagnostic cytology, *Koss LG, Melamed MR, editors*, pp282-394.
2. Rickles, N.H.(1972) Oral exfoliative cytology: an adjunct to biopsy, *CA: a cancer journal for clinicians*, *22*(3), pp163-171.
3. Vitanov, S., Dimitrov, D. and Bochukov, A.(1995) Manual of cytology and histology with histological techniques, *Zemizdat, Sofia,* 3rd ed, Bulgaria.

Recommended Reading

1. Bansal, C., Handa, U., Mohan, H. (2011) Fine needle aspiration cytology of pilomatrixoma. Journal of cytology/Indian Academy of Cytologists, 28(1), p 1.
2. Patel, P.V., Kumar, S., Kumar, V., Vidya, G.D.(2011) Quantitative cytomorphometric analysis of exfoliated normal gingival cells, Journal of Cytology/Indian Academy of Cytologists, 28(2), p 66.

3. Pektaş, Z.Ö., Keskin, A., Günhan, Ö., Karslioğlu, Y.(2006) Evaluation of nuclear morphometry and DNA ploidy status for detection of malignant and premalignant oral lesions: quantitative cytologic assessment and review of methods for cytomorphometric measurements, Journal of oral and maxillofacial surgery, 64(4), pp 628-635.
4. Prasad, H., Ramesh, V., Balamurali, P.D.(2010) Morphologic and cytomorphometric analysis of exfoliated buccal mucosal cells in diabetes patients, Journal of cytology/Indian Academy of Cytologists, 27(4), p 113.
5. Reginald, A., Sivapathasundharam, B. (2010) Oral hairy leukoplakia: an exfoliative cytology study, Contemporary clinical dentistry, 1(1), p 10.
6. Yang, L. (2006) Incidence and mortality of gastric cancer in China, World journal of gastroenterology: WJG, 12(1), p17.

IV.	**Course Organization**			
	Course Code	BDSPCE18		
	Course Title	Exfoliative Cytology in pathologic diagnosis		
	Course Leader/s Name		Dr. Sowmya SV	
	Course Leader Contact Details		**Phone:**	9945784509
			E-mail:	sowmya.op.ds@msruas.ac.in,
	Course Specifications Approval Date		July 2018	
	Next Course Specifications Review Date:		July 2022	