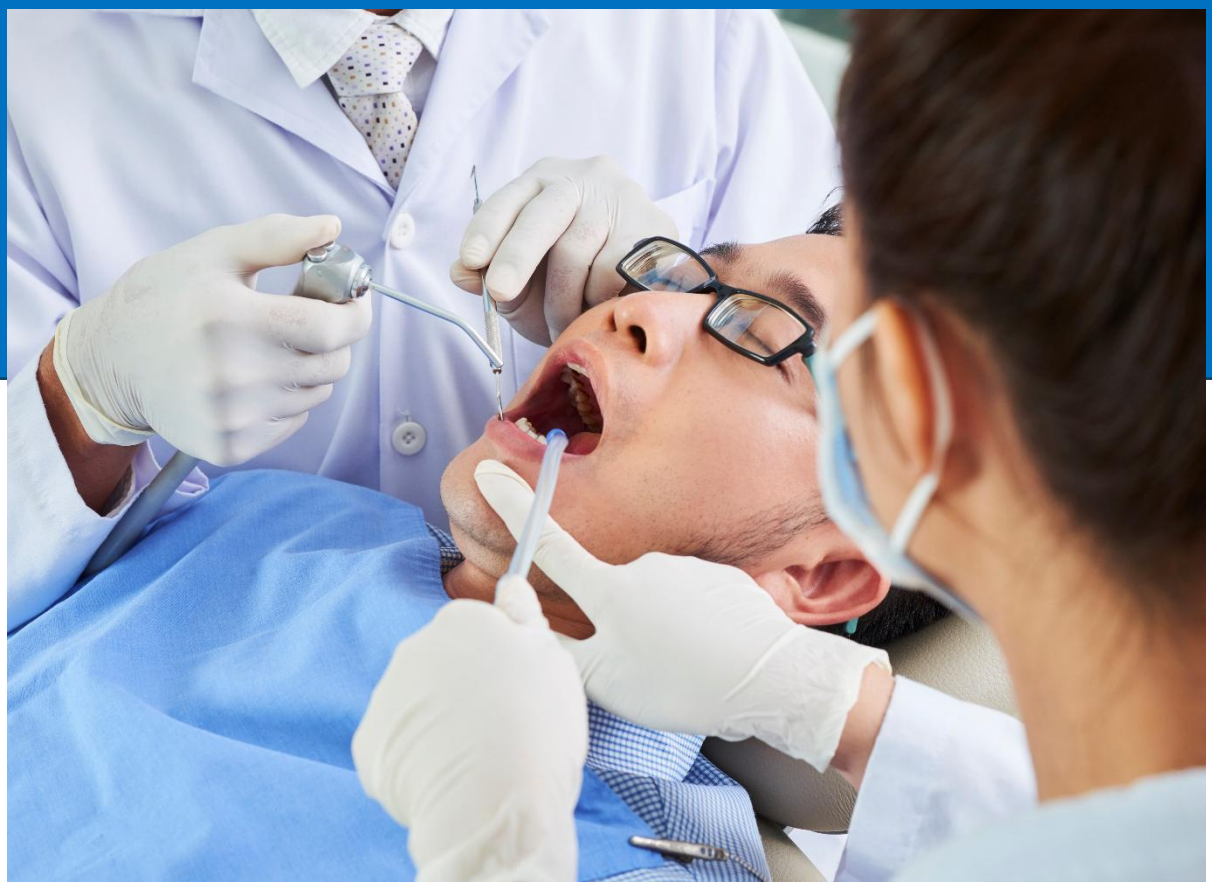

Bachelor of Dental Surgery (BDS)

Bachelor of Dental Surgery (BDS)

Mission

The SRU's Bachelor of Dentistry Surgery program mission is to cultivate compassionate dental professionals who blend scientific expertise with patient-centered care. Through rigorous education, hand-on training, and ethical practice, we prepare graduates to excel in oral health promotion, disease prevention, and treatment. Our commitment extends beyond clinical excellence, it encompasses community outreach, research, and advocacy.

Fostering a patient-centered approach within the **Bachelor of Dental Surgery (BDS)** program involves teaching empathy, effective communication, and active listening to understand patients' needs. Students learn to provide holistic care, consider overall well-being, and prioritize informed consent. Ethical practice, patient education, and continuous improvement are emphasized to ensure patient welfare and trust. At Springfield Research University, our **Bachelor of Dental Surgery** program is dedicated to preparing students for successful careers in the dynamic field of dentistry. Our mission rests on three fundamental pillars:

1. **Academic Excellence:**
    - We uphold rigorous standards, fostering critical thinking and intellectual growth.
    - Through engaging coursework, practical training, and evidence-based practice, we empower students to excel in the complex world of dental surgery.
    - Students gain a solid foundation in oral anatomy, physiology, clinical assessment, and patient care.
2. **Cutting-Edge Research:**
    - Our faculty and students actively contribute to advancing dental practice.
    - By addressing real-world challenges, exploring innovative treatment modalities, and shaping clinical guidelines, we drive positive change within the field.
    - Students engage in research projects, clinical trials, and evidence synthesis, enhancing their ability to provide evidence-based dental care.
3. **Societal Impact:**
    - We recognize our responsibility to society.
    - Our graduates are not only skilled clinicians but also ethical leaders who advocate for patient well-being, oral health promotion, and community health.
    - We empower them to make meaningful contributions to individual lives and public health, promoting overall well-being and quality of life.

The **Bachelor of Dental Surgery** program at Springfield Research University is committed to seamlessly integrating dental knowledge acquisition throughout the curriculum. Here's how we achieve this:

1. **Foundational Sciences:**
    - Students delve into core subjects such as oral anatomy, physiology, and histology. These foundational sciences provide the essential groundwork for understanding dental structures and functions.

2. **Clinical Correlations:**
    - Lectures and practical sessions are designed to correlate theoretical knowledge with clinical scenarios. For example, students learn about dental occlusion and immediately apply it during hands-on exercises.
3. **Case-Based Learning:**
    - Clinical cases serve as powerful teaching tools. Students analyze patient histories, radiographs, and diagnostic findings. This approach bridges theory and practice, reinforcing dental concepts.
4. **Simulated Patient Encounters:**
    - Simulation labs simulate real-world dental procedures. Students practice tooth preparations, restorations, and periodontal treatments on manikins, honing their skills before working with actual patients.
5. **Clinical Rotations:**
    - During clinical rotations, students work directly with patients under faculty supervision. They apply theoretical knowledge in diagnosing, planning, and executing dental treatments.
6. **Evidence-Based Practice:**
    - Students critically evaluate research articles, clinical guidelines, and treatment protocols. This integration of evidence-based dentistry ensures that knowledge acquisition aligns with current best practices.

By seamlessly weaving theory, practice, and evidence, our program prepares graduates to provide comprehensive and effective dental care.

RATIONALE FOR THE BACHELOR OF DENTAL SURGERY

The **Bachelor of Dental Surgery** program at Springfield Research University is purposefully designed to prepare students for impactful careers in oral healthcare. Rooted in academic excellence, this program equips students with essential knowledge, practical skills, and clinical experience. By emphasizing evidence-based practice and patient-centered care, our graduates emerge as competent professionals poised to make a positive impact on oral health outcomes.

National Needs (Eswatini):

1. **Quantitative Expertise:**
    - Eswatini requires skilled dental professionals who can navigate complex oral health scenarios.
    - The program equips students with mathematical proficiency and critical thinking abilities to assess dental conditions effectively.
2. **Evidence-Based Practice:**
    - Graduates advocate for evidence-based decision-making, ensuring fairness and equitable treatment.
    - By enhancing clinical reasoning, they contribute to better oral health outcomes.
3. **Policy and Practice:**

- The program fosters critical thinking, enabling graduates to engage in research, policy formulation, and informed clinical decision-making at the national level.

Regional Needs (SADC):

1. **Harmonization of Practices:**
    - SADC member states share oral health challenges.
    - The program aligns with SADC's goal of harmonizing clinical frameworks, promoting cooperation, and advancing patient care.
2. **Human Capital Development:**
    - Dental professionals play a pivotal role in regional health systems.
    - The program contributes to building a skilled workforce capable of addressing cross-border oral health complexities.
3. **Healthcare Stability:**
    - SADC's prosperity relies on informed oral healthcare practices.
    - Our graduates contribute to maintaining oral health system order, resolving dental challenges, and fostering regional well-being.

Purpose of the Program:

1. **Clinical Leadership:**
    - The program educates ethical leaders who champion evidence-based practice, fairness, and patient-centered care.
    - Graduates not only assess patient data but also shape clinical policies and protocols.
2. **Cutting-Edge Research:**
    - Students engage in specialized oral health research, addressing contemporary issues.
    - Their findings contribute to evidence-based practice, risk assessment, and practical solutions.
3. **Community Impact:**
    - The program prepares graduates to drive positive change through clinical practice, patient management, and oral health system analysis.

PROGRAM GOALS

Medical Knowledge: Graduates will demonstrate core medical knowledge of established and evolving dental and clinical sciences and apply this knowledge to patient care.

Interpersonal and Communication Skills: Graduates will demonstrate interpersonal and communication skills that result in effective information exchange with patients, families, physicians, and other members of the healthcare team.

Patient Care: Graduates will provide effective, safe, high-quality, and equitable patient care in diverse settings and across the life span.

Professionalism: Graduates will practice with integrity, ethical and legal responsibility, and sensitivity to diverse patient populations.

Practice-based Learning and Improvement: Graduates will critically analyze their practice experiences with Evidence-Based Medicine (EBM) and quality assurance processes to improve patient care.

Systems-based Practice: Graduates will demonstrate awareness of and responsiveness to dental healthcare systems while keeping the patient at the center of cost-effective, safe care.

Philosophy: The educational philosophy of the dental science program is to provide all students with the necessary dental and basic science foundation necessary to build solid medical knowledge and humanistic skills by which to ultimately provide high-quality patient care to future patients. The faculty views the responsibilities of role modeling and mentoring as critical to the success of assimilating students to the realities and responsibilities of dental science today. The educational philosophy incorporates the attitudes of respect for individual patients into critical decision-making through the assimilation of appropriate interpersonal skills, compassion, and respect and reverence for the position of dental scientist.

MEASURABLE PROGRAM LEARNING OUTCOMES

The **Bachelor of Dental Surgery (BDS)** program at Springfield Research University aims to equip students with the necessary knowledge, skills, and competencies to excel in the field of dentistry. Here are the comprehensive, clear, and measurable learning outcomes for the BDS program:

1. **Knowledge and Understanding:**
    - **Anatomy and Physiology:** Acquire a deep understanding of oral anatomy, craniofacial structures, and physiological processes relevant to dental practice.
    - **Oral Pathology and Microbiology:** Demonstrate knowledge of common oral diseases, their etiology, and microbiological aspects.
    - **Dental Materials:** Understand the properties, applications, and limitations of dental materials used in restorative dentistry.
2. **Clinical Skills and Competencies:**
    - **Patient Assessment:** Develop clinical skills in patient examination, diagnosis, and treatment planning.
    - **Restorative Dentistry:** Acquire proficiency in tooth preparation, restoration placement, and aesthetic dentistry.
    - **Oral Surgery and Periodontics:** Perform minor oral surgical procedures and manage periodontal conditions.
    - **Endodontics:** Master root canal treatment techniques and pulp therapy.
    - **Prosthodontics:** Fabricate and fit dental prostheses (crowns, bridges, dentures).
3. **Evidence-Based Practice:**
    - **Critical Appraisal:** Evaluate scientific literature, research studies, and clinical guidelines to inform evidence-based decision-making.
    - **Research Literacy:** Understand research methodologies, study designs, and statistical analysis relevant to dentistry.
4. **Professionalism and Ethics:**

- **Ethical Practice:** Adhere to professional codes of conduct, patient confidentiality, and informed consent.
- **Communication Skills:** Communicate effectively with patients, colleagues, and interdisciplinary teams.
- **Cultural Competence:** Demonstrate sensitivity to diverse patient backgrounds and cultural contexts.

5. **Patient Management:**
   - **Pain Management:** Implement local anesthesia techniques for pain control during dental procedures.
   - **Infection Control:** Apply infection prevention protocols to ensure patient safety.
   - **Emergency Management:** Handle dental emergencies promptly and effectively.
6. **Practice Management:**
   - **Practice Administration:** Understand dental practice management, including appointment scheduling, record-keeping, and billing.
   - **Risk Management:** Identify and mitigate risks related to patient care, legal issues, and infection control.

These learning outcomes provide a clear framework for assessing student progress and ensuring that graduates are well-prepared to provide high-quality dental care.

ENTRY REQUIREMENTS

The student must have 6 passes in SGCSE/GCE/IGCSE O' level including a pass with Grade C or better in English Language and at least four other subjects. **Special:** A-Level: Mathematics and any other two from Biology, Chemistry, Combined Science, Physics, Physical Science and/or Human and Social Biology. Faculty may set mature entry requirements subject to approval by Senate.

CAREER OPPORTUNITIES

Springfield Research University's dental science graduates contribute to combating the chronic shortage of dental and oral health workers. Once you're registered as a dentist, your job prospects are excellent.

ENJOY A WEALTH OF OPPORTUNITIES

Employment opportunities exist in general or specialist dental practice, public sector dental health, the defence forces (Army, Navy or Air Force), hospital dental clinics, education and research. Starting salaries for dentists are among the highest graduate starting salaries nationally.

ASSESSMENT METHODS

In the **Bachelor of Dental Surgery (BDS)** program at Springfield Research University, clinical competencies are assessed through a multifaceted approach that ensures students are well-prepared for dental practice. Here are some key methods used for assessing clinical competencies:

1. **Objective Structured Clinical Examinations (OSCEs):**
    - OSCEs involve structured stations where students demonstrate clinical skills, patient interactions, and decision-making.
    - These assessments cover various aspects of dental practice, such as patient assessment, diagnosis, treatment planning, and communication.
2. **Clinical Rotations and Placements:**
    - Students participate in supervised clinical rotations, working directly with patients.
    - Assessments occur during patient encounters, where students apply theoretical knowledge to real-world scenarios.
3. **Formative and Summative Assessments:**
    - Formative assessments provide ongoing feedback during the learning process. These include quizzes, assignments, and lab practicals.
    - Summative assessments evaluate overall performance. Final examinations, oral presentations, and end-of-semester papers assess clinical competencies.
4. **Feedback and Reflection:**
    - Regular feedback from faculty and peers helps students identify areas for improvement.
    - Reflection on clinical experiences enhances self-awareness and skill development.
5. **Ethical and Professional Competence:**
    - Assessments include adherence to ethical standards, patient confidentiality, and professionalism.
    - Communication skills, cultural competence, and teamwork are also evaluated.
6. **Evidence-Based Practice:**
    - Students critically analyze research literature, applying evidence to clinical decision-making.
    - Competency in evidence-based dentistry is assessed through case discussions and treatment planning.

These assessment methods ensure that BDS graduates are competent, ethical, and well-prepared to provide high-quality dental care.

The Bachelor's Degree shall:

The Bachelor's degree program in Bachelor of Dental Surgery at Springfield Research University is designed to equip students with the skills and knowledge necessary for a successful career in this dynamic field. Here are the key features of our program:

1. **Duration**:

- The program spans **five years** for full-time students or **seven years** for part-time students, including an industrial attachment or internship period.

2. **Semester Structure**:
    - Each academic year consists of **two semesters**.
    - **Semester Duration**: Each semester runs for **20 weeks**.
        - **Orientation Week**: One week dedicated to orientation.
        - **Teaching Weeks**: A minimum of **14 weeks** for instruction.
        - **Mid-Semester Break**: A one-week break for students.
        - **Examination Period**: Two weeks for final exams.
        - **Results Processing**: Two weeks allocated for marking and result processing.

Our program ensures a rigorous academic experience while allowing flexibility for part-time students. Students engage in hands-on learning, theoretical coursework, and practical projects, preparing them for the exciting challenges of the Dental and Medical industry.

Special Departmental Regulations

1. **Course Completion Requirements**:
    - All **Core**, **Prerequisite**, **Required**, **General**, and **Elective** courses within the degree program are compulsory. Students must pass these courses with a minimum grade of **50%** to graduate.
    - However, during the fourth and fifth years, all courses must be passed with a minimum grade of **60%** (equivalent to a CGPA of **3.00**) to qualify for graduation.
2. **Optional Courses**:
    - Optional courses do not contribute to the final grade. Their marks are excluded from the computation of the overall grade.
3. **Externalization of Courses**:
    - All courses within the degree programs must be completed internally. Externalization is not permitted.
4. **Quality Control and Evaluation**:
    - Regular academic audits and reviews occur every five years, overseen by external moderators. Internal program evaluation is ongoing.
5. **Competence and Preparation**:
    - The courses offered in the Bachelor of Dental Surgery program provide adequate competences, preparing students for professional practice at the required academic level.
6. **Core and Prerequisite Courses**:

- Students must pass all Core and Prerequisite courses with a minimum grade of **50%** before progressing to the next level or enrolling in additional courses.

Degree Award and Classification

- Upon successful completion of all **Core**, **Required**, and **Education** courses, as well as meeting the program requirements, a student will be awarded the degree of **Bachelor of Dental Surgery at** the end of the final year.
- The **normal classification** of a bachelor's degree is determined based on the academic performance during the fourth and fifth years of study.

Rationale to Course Numbering

At Springfield Research University, we meticulously design our Bachelor of Dental Surgery curriculum to empower students with the knowledge and skills needed to thrive in this dynamic field. Our course numbering system serves as a roadmap, guiding students through their academic journey - ****100-level courses**** introduce foundational concepts. - ****200-level courses**** build on those foundations. - ****300-level courses**** explore more specialized topics. - ****400- and 500 level courses**** are advanced and often include research or project components. Let's delve into the reasons behind our thoughtful approach:

1. **Logical Progression**: Our course numbers reflect a logical progression. Foundational concepts begin with the "100" series, followed by deeper explorations in the "200" and "300" levels. Advanced topics and research opportunities reside in the "400 & 500" series.
2. **Prerequisites and Coherence**: Clear numbering helps students understand prerequisites and co-requisites. For instance, a 200-level course assumes knowledge from related 100-level courses, ensuring a coherent learning experience.
3. **Specialization and Depth**: As students advance, higher-level courses delve into specialized areas such as oral anatomy and physiology, dental materials and techniques, and orthodontics. The numbering system communicates this depth of study.
4. **Alignment with Program Goals**: Each course number aligns with our program's learning outcomes. Whether it's mastering oral anatomy or diving into dental materials, students can track their progress.
5. **Transferability**: Consistent numbering facilitates credit transfer between institutions, supporting seamless academic mobility.

In summary, our course numbering isn't just a sequence—it's a deliberate framework that enhances learning, fosters curiosity, and prepares our students for impactful careers in Dentistry industry. Bachelor of Dental Surgery courses simplify the course numbering system.

100-Level Courses:

- **BDS 101:** Introduction to Dental Science
- **BDS 110:** Oral Anatomy and Physiology
- **BDS 120:** Dental Materials and Techniques

200-Level Courses:

- **BDS 201:** Dental Radiology and Imaging
- **BDS 210:** Periodontology and Oral Health
- **BDS 220:** Restorative Dentistry

300-Level Courses:

- **BDS 301:** Oral Surgery and Maxillofacial Trauma
- **BDS 310:** Pediatric Dentistry
- **BDS 320:** Orthodontics and Dentofacial Orthopedics

400-Level Courses:

- **BDS 401:** Prosthodontics and Dental Implants
- **BDS 410:** Endodontics and Pulp Therapy
- **BDS 420:** Community Dentistry and Public Health

500-Level Courses:

- **BDS 501:** Advanced Dental Research and Evidence-Based Practice
- **BDS 510:** Dental Ethics and Professionalism
- **BDS 520:** Special Topics in Dental Surgery

CREDIT TRANSFER, ACCUMULATION AND DISTRIBUTION OF NOTIONAL HOURS

The Bachelor of Dental Surgery is a four (5) year program. The student is expected to accumulate 620 credit points to be considered to have met the requirements of the Bachelor of Dental Surgery must pass each module by at least 50%.

- Level 1 = minimum of credits 124 (1240 notional hours of study)
- Level 2 = minimum of credits 124 (1240 notional hours of study)
- Level 3 = minimum of credits 124 (1240 notional hours of study)
- Level 4 = minimum of credits 124 (1240 notional hours of study)
- Level 5 = minimum of credits 124 (1240 notional hours of study)

TOTAL credit points 620 (6200 notional hours of study)

Credit Transfer and Accumulation

1. Credits are derived from engagement of students in learning activities during lectures, seminars, tutorials, micro or macro field trips, directed and self-directed learning and writing examination tests and assignments.
2. Modules from the health and medical faculty are worth 11 credit. Lecture attendance is compulsory. Students who attend less than 80% of lessons will not be allowed to sit for their sessional examinations.

Weighting

The degree class shall be based on weighting the results from part 1, 2, 3, 4 and 5, the Degree weighting shall be as follows:

Level 1	20%
Level 2	20%
Level 3	20%
Level 4	20%
Level 5	20%

Distribution of Notional Hours

Module	Lecture Hrs	Tutorials/ Seminars	Self-Directed Study	Assignment Tests/Exams	Notional Hrs	Credits
BDS000	50	20	20	20	110	11
PROJECT	0	0	40	100	140	14

ASSESSMENT

1. **Formative Assessment (30%):**
    - **Class Participation:** Actively engage in discussions, seminars, and practical activities. This ongoing feedback enhances learning during the course.
    - **Quizzes and Short Tests:** Regular assessments of specific anatomical, physiological, and clinical topics.
    - **Draft Assignments:** Receive feedback on early drafts of assignments, refining your work.
    - **Peer Review:** Collaborate with peers to review and improve each other's clinical reasoning and treatment plans.
2. **Summative Assessment (40%):**
    - **Final Examinations:** Comprehensive exams covering the entire program content, assessing theoretical knowledge and clinical application.
    - **End-of-Semester Papers:** Demonstrate analytical skills by critically evaluating research articles related to physician assistant practice.
    - **Oral Presentations:** Communicate effectively, presenting clinical cases, treatment approaches, and evidence-based recommendations.
3. **Continuous Assessment (30%):**
    - **Clinical Placement:** Engage in supervised clinical placements, applying theoretical knowledge to real patients. Assessments include patient interactions, treatment planning, and clinical reasoning.
    - **Assignments and Projects:** Regular tasks contribute to the overall grade, emphasizing practical skills and evidence-based practice.

- **Attendance and Participation:** Actively engage in lectures, workshops, and community health initiatives.

These assessment methods align with our commitment to academic excellence and the development of competent and compassionate physician assistants.

Teaching Methods

At Springfield Research University (SRU), we are committed to employing a diverse array of teaching methods to ensure a comprehensive and engaging learning experience for our students. Our teaching methods are carefully selected to align with the programme's objectives and to meet the needs of our diverse student body. The following are the key teaching methods utilized across all SRU programmes:

1. Lectures:

- Lectures are used to introduce and explain key concepts, theories, and principles. They provide a structured and systematic approach to delivering content, allowing students to gain a solid foundation in their respective fields. Lectures are often supplemented with visual aids, multimedia presentations, and interactive elements to enhance understanding and engagement.

2. Seminars:

- Seminars are interactive sessions that promote critical thinking and in-depth discussion on specific topics. Students are encouraged to actively participate, share their perspectives, and engage in debates. Seminars provide an opportunity for students to develop their analytical and communication skills.

3. Workshops:

- Workshops are hands-on sessions that focus on practical skills and applications. These sessions allow students to engage in experiential learning, apply theoretical knowledge to real-world scenarios, and collaborate with peers on projects and activities. Workshops are designed to foster creativity, problem-solving, and teamwork.

4. Problem-Based Learning (PBL):

- Problem-Based Learning is a student-centered approach that involves presenting students with complex, real-world problems to solve. Students work in small groups to research, discuss, and propose solutions, developing critical thinking and collaborative skills in the process. PBL encourages independent learning and active engagement.

5. Case Studies:

- Case studies are used to analyze real-life situations and decision-making processes. Students examine and discuss case studies to understand the context, identify key issues, and evaluate possible solutions. This method helps students develop their analytical and problem-solving abilities while relating theoretical concepts to practical situations.

6. Clinical Practice:

- For programmes that include a clinical component, such as Health and Medical Sciences, clinical practice is an integral part of the curriculum. Students gain hands-

on experience in clinical settings, working under the supervision of qualified professionals. This method provides valuable opportunities for students to apply their knowledge, develop clinical skills, and gain insights into professional practice.

7. Research Projects:

- Research projects are designed to cultivate a culture of inquiry and innovation. Students engage in independent or group research projects, exploring topics of interest and contributing to the body of knowledge in their field. Research projects develop students' research skills, critical thinking, and ability to communicate findings effectively.

8. Online Learning:

- Online learning is incorporated to provide flexible and accessible education. SRU utilizes online platforms to deliver lectures, conduct discussions, and facilitate collaborative projects. Online learning allows students to access course materials, participate in virtual classrooms, and engage with peers and instructors remotely.

9. Continuous Assessment:

- Continuous assessment methods, such as quizzes, assignments, and presentations, are used to monitor students' progress and provide ongoing feedback. These assessments help identify areas for improvement and ensure that students are meeting learning objectives throughout the course.

10. Peer Learning:

- Peer learning encourages students to collaborate and learn from each other. Group projects, study groups, and peer review sessions provide opportunities for students to share knowledge, offer feedback, and support each other's learning journey.

At SRU, our commitment to employing diverse and effective teaching methods ensures that our students receive a well-rounded education that prepares them for success in their chosen fields. We continuously review and enhance our teaching practices to provide the best possible learning experience for our students.

Delivery Methods

At Springfield Research University (SRU), we utilize a variety of delivery methods to ensure that our educational programmes are accessible, engaging, and effective. Our delivery methods are designed to cater to the diverse needs of our students and to provide flexible learning opportunities. The following are the key delivery methods employed across all SRU programmes:

1. In-Person Delivery:

- **Classroom Lectures:** Traditional classroom lectures provide a structured and interactive environment where students can engage with instructors and peers. These sessions often include discussions, presentations, and multimedia resources to enhance learning.
- **Laboratory Sessions:** For programmes that require practical and experimental learning, laboratory sessions are conducted in specialized labs equipped with the

necessary tools and equipment. These hands-on sessions allow students to apply theoretical knowledge in a controlled environment.

- **Clinical Placements:** Health and Medical Sciences programmes include clinical placements in hospitals, clinics, and healthcare facilities. These placements provide students with real-world experience under the supervision of qualified professionals.

2. Online Delivery:

- **Virtual Classrooms:** Online platforms are used to deliver lectures, conduct discussions, and facilitate collaborative projects. Virtual classrooms enable students to access course materials, participate in live sessions, and engage with peers and instructors from remote locations.
- **Recorded Lectures:** Recorded lectures are made available for students to access at their convenience. This flexible approach allows students to review and revisit course content as needed.
- **Online Assessments:** Online assessments, including quizzes, assignments, and exams, are conducted through secure online platforms. These assessments provide timely feedback and help monitor students' progress.

3. Blended Learning:

- **Hybrid Courses:** Blended learning combines in-person and online delivery methods to provide a flexible and comprehensive learning experience. Hybrid courses may involve alternating between classroom sessions and online activities.
- **Flipped Classroom:** In the flipped classroom model, students access instructional content online before class and use in-person sessions for interactive, application-based activities. This approach encourages active learning and deeper engagement with the material.

4. Independent Study:

- **Self-Paced Learning:** Self-paced learning allows students to progress through course materials at their own speed. This method is ideal for students who prefer to learn independently and manage their own schedules.
- **Research Projects:** Independent research projects provide students with the opportunity to explore topics of interest, develop research skills, and contribute to the body of knowledge in their field. Faculty advisors provide guidance and support throughout the research process.

5. Collaborative Learning:

- **Group Projects:** Group projects foster teamwork and collaboration among students. These projects often involve problem-solving, research, and presentations, allowing students to learn from each other and develop interpersonal skills.
- **Peer Review:** Peer review sessions encourage students to provide and receive constructive feedback on each other's work. This method promotes critical thinking, reflection, and improvement.

6. Experiential Learning:

- **Internships and Work Placements:** Internships and work placements provide students with practical experience in their chosen field. These opportunities allow students to apply their knowledge in real-world settings, develop professional skills, and build industry connections.
- **Field Trips and Excursions:** Field trips and excursions offer experiential learning opportunities outside the classroom. These activities provide students with firsthand exposure to relevant sites, industries, and practices.

7. Continuous Assessment:

- **Formative Assessments:** Formative assessments, such as quizzes, assignments, and in-class activities, provide ongoing feedback to students and help track their progress. These assessments are designed to support learning and identify areas for improvement.
- **Summative Assessments:** Summative assessments, including final exams, projects, and presentations, evaluate students' overall performance and mastery of course content.

At SRU, our diverse delivery methods ensure that students receive a well-rounded and flexible education that caters to their individual learning preferences. We are committed to continuously enhancing our delivery methods to provide the best possible learning experience for our students.

CURRICULUM

Dental Surgery, ESQF Level 8 BDS degree, typical course sequence

Year 1 Semester 1

Code	Course	Lectures	Practical	Credits
BDS100	Foundations of Dental Science	100	10	11
BDS101	Anatomy and Oral Anatomy	110	0	11
BDS102	Human Bioscience I	110	0	11
BDS103	Physiology and Oral Physiology	110	0	11
BDS104	Head and Neck Anatomy	110	0	11
BDS105	Dental Clinical Practice I	110	0	11
	Total			66

Year 1 Semester 2

Code	Course	Lectures	Practical	Credits
BDS106	Chemistry for Dental and Veterinary Sciences	100	10	11
BDS107	Human Bioscience II	110	0	11
BDS108	Communication for Academic Purposes	110	0	11
BDS109	Community and Preventive Dentistry	110	0	11
BDS110	Sociology for Dental Professionals	110	0	11
BDS111	Dental Clinical Practice 2	110	0	11
	Total			66

Year 2 Semester 3

Code	Course	Lectures	Practical	Credits
BDS212	Dental Clinical Practice 3	10	100	11
BDS213	Pathological Basis of Human Disease	110	0	11
BDS214	Community Dentistry	60	50	11
BDS215	Behavioral and Social Science Dentistry	110	0	11
BDS216	Communication for Professional Purposes	110	0	11
BDS217	Restorative Dentistry	60	50	11
	Total			66

Year 2 Semester 4

Code	Course	Lectures	Practical	Credits
BDS218	Oral Microbiology	100	10	11
BDS219	Dental Biochemistry	110	0	11
BDS220	Pathophysiology and Pharmacology I	110	0	11
BDS221	Medical Emergencies	110	0	11
BDS222	Dental Clinical Practice 4	110	0	11
BDS223	Psychosocial Aspects of Dentistry	110	0	11
	Total			66

Year 3 Semester 5

Code	Course	Lectures	Practical	Credits
BDS324	Dental Clinical Practice 5	10	100	11
BDS325	Prosthodontics	110	0	11
BDS326	Periodontology	110	0	11
BDS327	Endodontics	110	0	11
BDS328	Radiology	110	0	11
BDS329	Pathophysiology and Pharmacology II	110	0	11
	Total			66

Year 3 Semester 6

Code	Course	Lectures	Practical	Credits
BDS330	Anesthesia	10	100	11
BDS331	Foundations of Oral Surgery	110	0	11
BDS332	Oral Medicine and Oral Pathology	110	0	11
BDS333	Oral Maxillofacial Pathology	110	0	11
BDS334	Indigenous Health	110	0	11
BDS335	Research Methods	110	0	11
	Total			66

Year 4 Semester 7

Code	Course	Lectures	Practical	Credits
BDS436	Dental Clinical Practice 6	10	100	11
BDS437	General Medicine and Surgery for Dental Practice	110	0	11
BDS438	Oral Surgery	110	0	11
BDS439	Orthodontics and Pediatric Dentistry	110	0	11
BDS440	Advanced Statistics for Dental Research	110	0	11
BDS441	Advanced Periodontal	110	0	11
	Total			66

Year 4 Semester 8

Code	Course	Lectures	Practical	Credits
BDS442	Dental Clinical Practice 7	10	100	11
BDS443	Prosthodontics II	110	0	11
BDS444	Gerodontics, Special Needs Dentistry and Dental Public Health	110	0	11
BDS445	Clinical Pharmacology	110	0	11
BDS446	Advanced Oral Surgery	110	0	11
BDS447	Professional Practice I	110	0	11
	Total			66

Year 5 Semester 9

Code	Course	Lectures	Practical	Credits
BDS500	Dental Clinical Practice 8	10	100	11
BDS501	Implant Dentistry	110	0	11
BDS502	Advanced Prosthodontics	110	0	11
BDS503	Professional Practice II	10	100	11
BDS504	Advanced Gerodontics	60	50	11
BDS505	Dental Research Project I	10	100	11
	Total			66

Year 5 Semester 10

Code	Course	Lectures	Practical	Credits
BDS507	Dental Clinical Practice 9	10	100	11
BDS508	Advanced Restorative Dentistry	10	100	11
BDS509	Contemporary Restorative and Aesthetic Dentistry	10	100	11
BDS510	Advanced Digital Dentistry and Telemedicine	60	50	11
BDS511	Professional Practice and Ethics	100	10	11
BDS512	Dental Research Project II	10	100	11
	Total			66

COURSE DESCRIPTIONS

HUMAN BIOSCIENCE 1

This subject begins the study of human bioscience. Relevant chemistry, physics and microbiology are introduced before beginning the study of normal structure and function of the human body. This subject focuses on the structure and function of the integumentary, musculoskeletal, and nervous systems.

PATHOPHYSIOLOGY AND PHARMACOLOGY 1

This subject explores pathophysiological processes contributing to disease. This subject focuses on pathophysiological processes associated with musculoskeletal, cardiovascular and respiratory dysfunction. Relevant pharmacology is integrated throughout.

HUMAN BIOSCIENCE 2

This subject continues the study of normal structure and function of the human body which was commenced in Human Bioscience 1. This subject focuses on the structure and function of the endocrine, cardiovascular, lymphatic, respiratory, urinary, digestive and reproductive systems.

PATHOPHYSIOLOGY AND PHARMACOLOGY 2

This subject continues the study of pathophysiological processes contributing to disease. This subject focuses on pathophysiological processes associated with dysfunction of the nervous, endocrine, digestive, urinary and reproductive systems. Immune responses and wound healing are also covered in this subject. Relevant pharmacology is integrated throughout.

INDIGENOUS HEALTH

This subject develops knowledge of the health and well-being perspectives of Indigenous peoples. It will enhance understandings of the underlying historical, political, social, economic and cultural factors that contribute to Indigenous health in a contemporary context. It examines a range of social, cultural, historical, and institutional factors that impact on the contemporary health experiences of Indigenous and non-Indigenous peoples using a relational framework. It develops skills in critical thinking, reflection, and analysis for reflexive practice within the health professions.

FOUNDATIONS OF DENTAL CLINICAL PRACTICE 1

In this subject, students will be introduced to the health, legal and professional environment in which dentistry is practised. Novice level aspects of pre-clinical dentistry through theory, laboratory exercises and pre-clinical simulation will be introduced. This training will commence with concepts around work, health and safety and infection control according to the latest guidelines and legal requirements. Students are also introduced to the social and biomedical impacts on health and oral health. Simple concepts in caries pathophysiology and disease risk assessment will be introduced. Instruction in basic dental laboratory skills and techniques will also be an integral part of this unit along with pre-clinical simulation training, which will introduce students to the ongoing study and manipulation of dental materials and restorative cavity preparation techniques. Early knowledge in dental radiation science and radiographic technique will be provided. This novice level training will also assess manual dexterity and spatial sense.

ORAL ANATOMY AND HISTOLOGY

This subject is a year-long subject within the broad area of biological dental science. The subject introduces craniofacial anatomy, the human dentitions and teeth in the contexts of form and function. The detailed anatomical morphology of teeth, microscopic structure of the dental tissues, their supporting tissues, tooth calcification, emergence-eruption, dental embryology and the structure and function of the oral mucosa, the salivary glands and the temporomandibular joint are dealt with in detail.

PHYSIOLOGICAL SCIENCES 1

This subject provides a foundation study of the human body using an integrated systems approach. The primary focus of this subject will be on the physiological processes underlying the function of each body system. After an introduction to anatomical terminology and cell biology, the emphasis of the subject is on the physiology of the nervous, endocrine, skeletal and muscular systems.

PHYSIOLOGICAL SCIENCES 2

This subject continues the foundation study of the function of the human body. Topics in this subject include the physiology of the cardiovascular, respiratory, digestive, renal and reproductive systems including pertinent medical considerations. Students gain anatomical and physiological knowledge in practical classes and lectures. Distance students attend residential school where practical classes will be conducted.

CHEMISTRY FOR DENTAL AND VETERINARY SCIENCES

This subject will provide foundational knowledge and skills in chemistry as scaffolding for further studies in many fields relevant to animal, dental and veterinary sciences including, but not limited to, biochemistry and physiology. Current theories of the nature of atoms, molecules and bonding, to explain the behaviour of bulk matter, will be investigated. Topics include thermodynamics; kinetics; gases; an introduction to organic chemistry and organic functional group chemistry, with specific applications. A practical component will enhance understanding of theoretical concepts as well as develop problem solving abilities.

ORAL MICROBIOLOGY

This subject introduces micro-organisms, their characteristics and how they affect humans. Cultivation, enumeration, identification and control of micro-organisms are emphasised. Mechanisms by which medically important micro-organisms cause disease are introduced. The concepts of infection, inflammation and immunology are introduced in this subject. Infection control procedures are discussed in theory and applied in laboratory classes. An understanding of normal oral flora is developed in the subject. Hypotheses of oral disease aetiology, including specific, non-specific and ecological plaque hypotheses, are critically evaluated with respect to current peer-reviewed research findings. Practical skills developed in laboratory classes are used to solve dentistry-related case-based problems in a way that encourages independent, critical and reflective thinking.

DENTAL BIOCHEMISTRY

This subject provides a foundation level understanding of the structure and function of biological macromolecules (proteins, carbohydrates, lipids, and nucleic acids) and the major metabolic and bio-energetic pathways within cells. The subject also includes study of calcium and phosphorus metabolism and an introduction to nutritional biochemistry. Oral biochemistry provides the basis for further studies by Dentistry students in applied genetics, immunology, pathology, pharmacology-therapeutics and in clinical dental subjects.

PATHOLOGICAL BASIS OF HUMAN DISEASE

Students will gain a foundation level understanding of the biochemical, cellular and tissue responses that can arise as a consequence of injury to cells, tissues and body organ systems. This understanding will be developed in the context of the aetiology and pathogenesis of basic pathological processes. This includes inflammation and sequelae, immunological reactivity, hypertrophy and hyperplasia, healing and neoplasia. The students will also gain an understanding of the pathogenesis and clinical, macroscopic, and microscopic features of common and important human diseases relevant to dental practice

FOUNDATIONS OF DENTAL CLINICAL PRACTICE 2

This subject will continue the development of basic dental diagnostic and clinical management skills related to both simple restorative (operative) and periodontal procedures in the clinical dental environment. Students will learn differential diagnosis of simple oral conditions, appropriate to a novice-level clinician, and the management of simple restorative and periodontal procedures in the clinical dental environment. There will be a focus upon associated dental processes, the aetiology, diagnosis, differential diagnosis and immunopathogenesis of caries and periodontal diseases are presented in lecture and discussion sessions.

HEAD AND NECK ANATOMY

This subject is designed to provide students with the opportunity of learning the functional and clinical anatomy of the head and neck and to continue to develop their basic anatomical knowledge. The subject will cover the skeletal, muscular, vascular and nervous tissue components of the head and neck with a strong emphasis on function as it relates to dentistry and a special focus on clinical anatomy relevant to minor oral surgery and the administration of local anaesthetics.

FOUNDATIONS OF RESTORATIVE DENTISTRY

This subject is designed to further develop the student's understanding of, and competence in, restorative dentistry that form the foundation for clinical work in this field.

The first half of the year preclinical component of this subject comprises intra-coronal tooth preparations and their restoration using direct restorative materials (dental amalgam, composite resin, glass-ionomers). The practical aspects of the subject to be covered in the preclinical simulation clinic will comprise the restoration of the proximal surfaces of anterior and posterior teeth, the restoration of a fractured anterior tooth and the use of complex metallic posterior restorations. Practical aspects related to the management of dental caries will also be covered. The lecture content will support the topics covered in the practical classes and introduce students to a number of concepts of clinical significance which will be further developed in Year 3. The practical part of the Session 1 component of this subject constitutes the key development of manual skills and hand-eye coordination that is required for clinical dentistry. The second half of the year component comprises of theoretical content and practical experience, develops understanding of, and competence in, advanced anterior and posterior restorative techniques using composite resin.

PROSTHODONTICS 1

This subject is designed to introduce students to the management of simple prosthodontic cases. It will cover the clinical examination, diagnosis, treatment planning and management of such cases and provide students with the opportunity to undertake pre-clinical laboratory technique exercises, to develop the practical skills required to construct uncomplicated complete and/or partial removable dental prostheses. The subject also covers introductory aspects of dental occlusion --- comprising the applied anatomy and physiology of the temporomandibular joint (TMJ), and the interplay between the TMJ, the muscles and the dentition. A practical part of this content introduces the clinical and laboratory steps in providing occlusal therapy for a patient.

FOUNDATIONS OF DENTAL CLINICAL PRACTICE 3

This subject is designed to provide students with the opportunity to participate in the provision of patient-centred dental clinical care. There is a strong emphasis on diagnosis and evidence-based treatment planning and the completion of simple clinical procedures, including the administration of oral local anaesthetics, non-complex periodontic and restorative procedures, the relief of pain and the provision of uncomplicated removable dental prostheses.

ENDODONTICS

This subject will give students an introduction and opportunity to develop their knowledge and skills in the management of simple dental endodontics, incorporating diagnosis, treatment planning and post-operative follow up. The subject will emphasise an evidence-based approach to the management of the patient's endodontic requirement in the context of their overall dental and systemic health. This approach should be logical, sequential and efficacious.

Students will develop the clinical skills and manual dexterity required to deliver dental treatment to a high standard. The treatment includes patient assessment, differential diagnosis, treatment planning and provision primarily of non-surgical endodontic treatment by using contemporary technology to provide consistency to endodontic procedures.

FOUNDATIONS OF ORAL SURGERY

This subject will provide students with an introduction to, and opportunity to develop their knowledge and skills in, the management of simple dental extractions incorporating diagnosis, treatment planning, execution and post-operative follow up. There will be a focus on understanding the general principles of pharmacology with particular relevance to dental care, pain control and administering local anaesthetics.

ORAL-MAXILLOFACIAL PATHOLOGY

This subject focuses on the aetiology, pathogenesis, histopathological, clinical and, where relevant, the radiographic features of diseases affecting the teeth, gums, oral mucosa, subjacent oral soft tissues, the jawbones and salivary glands. Emphasis in the subject is placed on the more common or important oral-maxillofacial conditions that may be encountered in general dental practice. The basic principles of clinical management, including

description of diagnostic tests and their relevance, are described in relation to the more common-important diseases

DENTAL CLINICAL PRACTICE 4

This subject is a continuation of Dental Clinical Practice 3 and is designed to provide students with the skills necessary to provide complex and comprehensive clinical care. Students will continue to develop the requisite skills in diagnosis, treatment planning and case selection at a general dental practitioner level, as well as develop an appropriate understanding of the referral pathways essential for optimal patient care.

MEDICINE AND SURGERY FOR DENTAL PRACTICE

In this subject students will cover relevant aspects of the causes, nature and management of diseases of major body systems. This will include relevant discussion of the respiratory, cardiovascular, gastrointestinal, hepatobiliary, endocrine, hematological, immunological, neurological, renal, dermatological and musculoskeletal systems. This subject will also include aspects of oral medicine where the oral health and general health nexus will be addressed.

ORAL SURGERY

In this subject students will continue to develop competencies in a range of minor oral surgical procedures. Students will continue to master their knowledge and skills in simple exodontia. This subject will also include a study of the role and application of therapeutics in patient care. Part of the subject will include introductory concepts in surgical aspects of implant dentistry.

ORTHODONTICS AND PAEDIATRIC DENTISTRY

This subject will focus on the integration of the specialist discipline areas of paediatric dentistry and orthodontics. Students will gain the requisite skills in diagnosis, treatment planning and case selection for general practitioner level paediatric and orthodontic care as well as an appropriate understanding of the referral pathways essential for optimal paediatric and orthodontic specialist treatment. This subject is designed to provide students with full development of skills necessary to provide more complex and comprehensive clinical care for adults, teenagers and children as they further develop their knowledge of growth and development from earlier years.

PROSTHODONTICS 2

This subject is a continuation of Prosthodontics 1. It is designed to provide students with the skills necessary to deliver complex and comprehensive clinical care in Prosthodontics, including restoration of endodontically treated teeth. It will cover the clinical examination, diagnosis, treatment planning and management of such cases, at an advanced level. The students will continue to develop their clinical and pre-clinical laboratory skills required to treat patients with complete/ partial removable prosthodontic and partial fixed prosthodontic needs.

DENTAL CLINICAL PRACTICE 5

Students participate in a clinical placement program in the provision of clinical care in varied settings in regional areas. Each clinical site will have students providing dental care under supervision. Clinical learning is reinforced by means of case analyses, case reviews and clinical session reviews by clinical staff.

GERODONTICS, SPECIAL NEEDS DENTISTRY, DENTAL PUBLIC HEALTH

This subject focuses upon the general physiologic aspects of ageing, the health and disease burdens of the aged, speech and nutrition issues, therapeutic drug burdens and implications for care, care facility environments and oral health care delivery. Ageing and the oral tissues and oral diseases of significance in the elderly are also reviewed.

ADVANCED CLINICAL OPTIONS

This subject is undertaken by final year students whilst they are on clinical placement. The subject is largely a directed student learning and self-learning subject requiring students to undertake independent reading and literature searches on assigned topics in dentistry, to evaluate literature, to demonstrate critical thinking skills and to demonstrate high level analytical and written communication skills. Although not a formal part of the subject students' clinical experiences also informs this subject.

COURSE OUTLINES

Course Title: Foundations of Dental Science

Course Description:

The “Foundations of Dental Science” course provides essential knowledge and skills for dental students. It serves as the building block for understanding oral health, clinical practice, and patient care. Students explore fundamental concepts related to dental anatomy, histology, and basic science principles.

Learning Objectives:

By the end of this course, students will be able to:

1. **Understand** the structure and function of oral tissues and their relevance to dentistry.
2. **Apply** foundational scientific principles to clinical practice.
3. **Recognize** variations and anomalies in dental anatomy.

Topics Covered:

1. **Dental Anatomy:**
    - Tooth morphology (incisors, canines, premolars, molars)
    - Occlusion and dental arches
    - Development of primary and permanent dentition
2. **Oral Histology:**

    - Microscopic structure of teeth, gingiva, and periodontal tissues
    - Enamel, dentin, pulp, and cementum
3. **Basic Science Principles:**
    - Biochemistry of dental hard tissues
    - Physiology of salivary glands
    - Microbiology of oral infections
4. **Clinical Applications:**
    - Radiographic interpretation of dental structures
    - Correlation between anatomy and restorative dentistry
    - Introduction to dental materials

Assessment:

- **Written Exams:** Assess understanding of dental anatomy and histology.
- **Laboratory Practicals:** Identify dental structures on models and radiographs.
- **Case Studies:** Apply anatomical knowledge to clinical scenarios.

Recommended Reading:

1. **"Wheeler's Dental Anatomy, Physiology and Occlusion"** by Stanley J. Nelson et al.
2. **"Ten Cate's Oral Histology: Development, Structure, and Function"** by Antonio Nanci

Course Title: Anatomy and Oral Anatomy

Course Description:

The "Anatomy and Oral Anatomy" course provides foundational knowledge of human anatomy and its relevance to oral health. Students learn about the structure, function, and development of oral and facial structures. The course integrates anatomical principles with clinical applications specific to dentistry.

Learning Objectives:

By the end of this course, students will be able to:

1. **Understand** the anatomical structures of the head, neck, and oral cavity.
2. **Apply** anatomical knowledge to dental practice, including oral examinations and treatment planning.
3. **Recognize** variations and anomalies in oral anatomy.

Topics Covered:

1. **General Human Anatomy:**
    - Overview of major body systems (skeletal, muscular, nervous, circulatory)
    - Head and neck anatomy
2. **Oral and Facial Structures:**
    - Teeth and their development
    - Salivary glands
    - Temporomandibular joint (TMJ)
3. **Embryology and Development:**

    - Formation of the face and oral structures
    - Dental development stages
4. **Clinical Applications:**
    - Radiographic anatomy
    - Local anesthesia administration
    - Oral pathology correlations

Assessment:

- **Written Exams:** Assess understanding of anatomical concepts.
- **Oral Presentations:** Demonstrate knowledge of oral anatomy.
- **Laboratory Practicals:** Identify anatomical structures on models and radiographs.

Recommended Reading:

1. **"Essential Clinical Anatomy"** by Keith L. Moore et al.
2. **"Oral Anatomy, Histology, and Embryology"** by Barry K.B. Berkovitz et al.

Course Title: Human Bioscience I

Course Description:

The "Human Bioscience I" course provides foundational knowledge in basic biomedical sciences relevant to dentistry. Students gain a general understanding of the human body and its normal functioning. This course serves as a foundation for further study in clinical dentistry.

Learning Objectives:

By the end of this course, students will be able to:

1. **Understand** the structure and function of human body systems.
2. **Apply** basic scientific principles to dental practice.
3. **Recognize** the relevance of bioscience to oral health.

Topics Covered:

1. **General Human Anatomy and Physiology:**
    - Overview of major body systems (skeletal, muscular, nervous, circulatory)
    - Head and neck anatomy
2. **Biochemistry and Nutrition:**
    - Role of nutrients in health and disease
    - Metabolism of carbohydrates, lipids, and proteins
3. **Cell Biology and Histology:**
    - Cellular structure and function
    - Tissues of the oral cavity
4. **Microbiology and Immunology:**
    - Oral microbiota
    - Immune responses in oral health

Assessment:

- **Written Exams:** Assess understanding of bioscience concepts.
- **Laboratory Practicals:** Identify anatomical structures and histological features.
- **Case Studies:** Apply bioscience knowledge to dental scenarios.

Recommended Reading:

1. **"Essential Clinical Anatomy"** by Keith L. Moore et al.
2. **"Oral Anatomy, Histology, and Embryology"** by Barry K.B. Berkovitz et al.

Course Title: Physiology and Oral Physiology

Course Description:

The "Physiology and Oral Physiology" course provides essential knowledge of human physiology and its specific relevance to oral health and dentistry. Students explore the functioning of various body systems and their impact on oral structures. This foundational course prepares students for clinical practice and understanding oral diseases.

Learning Objectives:

By the end of this course, students will be able to:

1. **Understand** the physiological processes underlying oral health and function.
2. **Apply** physiological principles to dental practice and patient care.
3. **Recognize** the interplay between systemic health and oral well-being.

Topics Covered:

1. **General Human Physiology:**
    - Cellular physiology
    - Nervous system function
    - Cardiovascular and respiratory systems
2. **Oral Physiology:**
    - Salivary gland function
    - Mastication and swallowing
    - Taste perception
3. **Endocrine Regulation:**
    - Hormonal control of metabolism
    - Impact on oral tissues
4. **Clinical Applications:**
    - Effects of medications on oral health
    - Physiological basis of pain management
    - Stress and its influence on oral conditions

Assessment:

- **Written Exams:** Assess understanding of physiological concepts.
- **Laboratory Practicals:** Demonstrate knowledge of oral physiology through practical exercises.

- **Case Studies:** Apply physiological principles to clinical scenarios.

Recommended Reading:

1. **"Essential Physiology for Dental Students"** by John O. G. Meechan et al.
2. **"Oral Physiology, Second Edition"** by Michael J. F. Barter et al.

Course Title: Mathematics Perspective A: Applied Calculus

Course Description:

The "Mathematics Perspective A: Applied Calculus" course introduces fundamental concepts of calculus and their practical applications. Students explore topics relevant to dental practice, emphasizing problem-solving skills and quantitative reasoning. The course aims to equip future dentists with mathematical tools necessary for clinical decision-making.

Learning Objectives:

By the end of this course, students will be able to:

1. **Understand** the principles of calculus, including differentiation and integration.
2. **Apply** calculus techniques to dental scenarios, such as modeling growth rates or analyzing drug dosages.
3. **Interpret** mathematical results in the context of oral health and patient care.

Topics Covered:

1. **Limits and Continuity:**
    - Definition of limits
    - Continuity of functions
2. **Differentiation:**
    - Derivatives and rates of change
    - Tangent lines and critical points
3. **Integration:**
    - Definite and indefinite integrals
    - Area under curves
4. **Applications in Dentistry:**
    - Tooth eruption modeling
    - Drug dosage calculations
    - Radiographic exposure adjustments

Assessment:

- **Written Exams:** Assess understanding of calculus concepts.
- **Problem-Solving Assignments:** Apply calculus techniques to dental scenarios.
- **Clinical Relevance Discussions:** Discuss how mathematical concepts relate to oral health practice.

Recommended Reading:

1. **"Applied Calculus: Comprehensive Definition and Detailed Examples"** by Story of Mathematics
2. **"Essential Calculus"** by James Stewart

Course Title: General Education: Ethical Perspective

Course Description:

The “General Education: Ethical Perspective” course explores ethical principles and their application in dentistry. Students examine moral dilemmas, professional responsibilities, and patient rights within the dental context. The course aims to foster ethical awareness, critical thinking, and compassionate decision-making.

Learning Objectives:

By the end of this course, students will be able to:

1. **Analyze** ethical issues commonly encountered in dental practice.
2. **Apply** ethical frameworks to clinical decision-making.
3. **Demonstrate** professionalism and integrity in patient care.

Topics Covered:

1. **Introduction to Dental Ethics:**
    - Historical perspectives
    - Ethical theories (utilitarianism, deontology, virtue ethics)
2. **Patient Autonomy and Informed Consent:**
    - Communication with patients
    - Shared decision-making
3. **Confidentiality and Privacy:**
    - Handling patient information
    - Legal and ethical considerations
4. **Professional Boundaries and Relationships:**
    - Interactions with colleagues and staff
    - Dual relationships
5. **Ethical Dilemmas in Dentistry:**
    - Resource allocation
    - Truth-telling in diagnosis and treatment

Assessment:

- **Case Studies:** Analyze ethical scenarios in dental practice.
- **Reflective Essays:** Explore personal ethical values and decision-making processes.
- **Professionalism Evaluation:** Assess adherence to ethical standards.

Recommended Reading:

1. **“Dental Ethics at Chairside: Professional Principles and Practical Applications”** by David T. Ozar et al.
2. **“Ethics, Jurisprudence, and Practice Management in Dental Hygiene”** by Vickie J. Kimbrough-Walls et al.

Course Title: Chemistry for Dental and Veterinary Sciences

Course Description:

The “Chemistry for Dental and Veterinary Sciences” course provides foundational knowledge in chemistry relevant to dentistry and veterinary medicine. Students explore essential chemical principles and their applications in oral health and animal care. The course aims to equip future dental and veterinary professionals with the necessary chemical understanding for clinical practice.

Learning Objectives:

By the end of this course, students will be able to:

1. **Understand** fundamental chemical concepts and terminology.
2. **Apply** chemical principles to dental and veterinary scenarios.
3. **Recognize** the relevance of chemistry in patient care and animal health.

Topics Covered:

1. **Basic Chemical Concepts:**
    - Atomic structure and periodic table
    - Chemical bonding and molecular interactions
    - Chemical reactions and equations
2. **Biochemistry and Physiology:**
    - Biomolecules (proteins, lipids, carbohydrates)
    - Enzymes and metabolic pathways
    - Acid-base balance in biological systems
3. **Chemistry of Dental Materials:**
    - Properties of dental materials (resins, ceramics, metals)
    - Adhesion and bonding agents
    - Biocompatibility and toxicity considerations
4. **Clinical Applications:**
    - Dental radiography and contrast agents
    - Drug interactions and pharmacology
    - Laboratory techniques in dentistry and veterinary medicine

Assessment:

- **Written Exams:** Assess understanding of chemical concepts.
- **Laboratory Practicals:** Apply chemical principles in practical settings.
- **Case Studies:** Analyze chemical aspects of patient care or animal health.

Recommended Reading:

1. **“General Chemistry: Principles and Modern Applications”** by Ralph H. Petrucci et al.
2. **Chemistry for the Biosciences”** by Jonathan Crowe

Course Title: Human Bioscience II

Course Description:

The “Human Bioscience II” course builds upon foundational knowledge from Human Bioscience I. It delves deeper into physiological and anatomical principles relevant to dentistry. Students explore the intricacies of human systems and their impact on oral health. The course emphasizes critical thinking, clinical applications, and evidence-based practice.

Learning Objectives:

By the end of this course, students will be able to:

1. **Understand** advanced physiological concepts related to oral health.
2. **Apply** bioscience knowledge to clinical scenarios in dentistry.
3. **Evaluate** the interplay between systemic health and oral well-being.

Topics Covered:

1. **Advanced Physiology:**
    - Cardiovascular system
    - Respiratory system
    - Renal physiology
2. **Oral and Craniofacial Anatomy:**
    - Temporomandibular joint (TMJ)
    - Cranial nerves and their relevance to dentistry
    - Oral cavity histology
3. **Pathophysiology and Oral Health:**
    - Systemic diseases affecting oral tissues
    - Oral manifestations of common medical conditions
    - Pharmacology and drug interactions
4. **Clinical Applications:**
    - Radiographic interpretation of systemic conditions
    - Medical emergencies in dental practice
    - Evidence-based approaches to patient care

Assessment:

- **Written Exams:** Assess understanding of advanced physiological concepts.
- **Case Studies:** Analyze clinical scenarios involving systemic health and oral conditions.
- **Laboratory Practicals:** Apply anatomical and histological knowledge to oral structures.

Recommended Reading:

1. **“Medical Physiology: Principles for Clinical Medicine”** by Rodney A. Rhoades et al.
2. **“Oral and Maxillofacial Pathology”** by Brad W. Neville et al.

Course Title: Communication for Academic Purposes

Course Description:

The “Communication for Academic Purposes” course focuses on developing effective communication skills necessary for academic success in dentistry. Students learn to express themselves clearly, engage in scholarly discussions, and present research findings. The course emphasizes written and oral communication relevant to dental practice and research.

Learning Objectives:

By the end of this course, students will be able to:

1. **Write** coherent and well-structured academic papers, reports, and case studies.
2. **Present** research findings confidently and professionally.
3. **Participate** in scholarly discussions and debates within the dental field.

Topics Covered:

1. **Academic Writing:**
    - Essay structure and organization
    - Literature reviews and citations
    - Scientific writing conventions
2. **Oral Presentations:**
    - Effective slide design
    - Delivery techniques and audience engagement
    - Handling questions and feedback
3. **Professional Communication:**
    - Interacting with colleagues, faculty, and patients
    - Ethical communication in dentistry
    - Cultural competence and sensitivity

Assessment:

- **Written Assignments:** Evaluate academic writing skills.
- **Oral Presentations:** Assess clarity, organization, and delivery.
- **Participation in Discussions:** Engage in scholarly conversations.

Recommended Reading:

1. **“Writing for Academic Success”** by Gail Craswell and Megan Poore
2. **“Presentation Zen: Simple Ideas on Presentation Design and Delivery”** by Garr Reynolds

Course Title: Community and Preventive Dentistry

Course Description:

The “Community and Preventive Dentistry” course focuses on public health aspects of dentistry. Students explore community-based oral health promotion, disease prevention, and

epidemiology. The course emphasizes the role of dentists in improving population health and addressing oral health disparities.

Learning Objectives:

By the end of this course, students will be able to:

1. **Understand** the principles of community oral health.
2. **Apply** preventive strategies to promote oral health at the community level.
3. **Evaluate** the impact of preventive programs on population health.

Topics Covered:

1. **Oral Health Epidemiology:**
    - Prevalence of oral diseases
    - Risk factors and determinants
2. **Community-Based Programs:**
    - School-based dental health education
    - Fluoridation and sealant programs
    - Outreach clinics and mobile dental units
3. **Health Promotion and Education:**
    - Behavior change theories
    - Communication strategies for oral health promotion
    - Cultural competence in community settings
4. **Assessment and Planning:**
    - Needs assessment and program planning
    - Community needs analysis
    - Program evaluation

Assessment:

- **Community Project:** Develop and implement an oral health promotion initiative.
- **Written Reports:** Analyze epidemiological data and propose preventive strategies.
- **Class Participation:** Engage in discussions and case studies related to community dentistry.

Recommended Reading:

1. **“Essentials of Public Health Dentistry”** by Meera Sandhu
2. **“Community Oral Health Practice for the Dental Hygienist”** by Christine French Beatty et al.

Course Title: General Education: Global Perspective

Course Description:

The “General Education: Global Perspective” course explores the impact of dentistry on a global scale. Students examine oral health disparities, cultural influences, and ethical considerations in diverse communities worldwide. The course aims to broaden students’ perspectives and enhance their ability to provide culturally competent dental care.

Learning Objectives:

By the end of this course, students will be able to:

1. **Analyze** global oral health challenges and inequalities.
2. **Evaluate** cultural factors affecting patient care in different regions.
3. **Apply** ethical principles in cross-cultural dental practice.

Topics Covered:

1. **Global Oral Health Trends:**
    - Epidemiology of oral diseases worldwide
    - Access to dental care in low-resource settings
2. **Cultural Competence:**
    - Understanding cultural norms and beliefs
    - Effective communication with diverse patient populations
3. **Ethical Dilemmas in Global Dentistry:**
    - Resource allocation in underserved areas
    - Balancing individual patient needs with public health priorities
4. **Community Engagement and Advocacy:**
    - Collaborating with international organizations
    - Participating in global health initiatives

Assessment:

- **Research Project:** Investigate oral health disparities in a specific region.
- **Case Studies:** Analyze cultural challenges in patient care scenarios.
- **Reflective Essays:** Explore personal growth and cultural awareness.

Recommended Reading:

1. **"Global Health 101"** by Richard Skolnik
2. **"Cultural Competence in Health Education and Health Promotion"** by Miguel A. Pérez et al.

Course Title: Sociology for Dental Professionals

Course Description:

This course integrates sociological concepts with dental practice. It explores the impact of social factors on oral health, patient interactions, and healthcare delivery. Students will gain insights into cultural diversity, health disparities, and ethical considerations within dentistry.

Learning Objectives:

1. **Understand Sociocultural Contexts**: Explore how social, cultural, and economic factors influence oral health outcomes.
2. **Enhance Communication Skills**: Develop effective communication strategies for diverse patient populations.
3. **Ethical Awareness**: Recognize ethical dilemmas related to patient care and social justice.

4. **Health Inequalities**: Analyze disparities in access to dental services and propose solutions.

Topics Covered:

1. **Introduction to Sociology in Dentistry**:
    - Historical context
    - Sociological theories
2. **Social Determinants of Oral Health**:
    - Income, education, and health
    - Cultural competence
3. **Patient-Centered Care**:
    - Effective communication
    - Patient autonomy
4. **Health Disparities and Equity**:
    - Social inequalities
    - Access to care
5. **Ethics and Professionalism**:
    - Informed consent
    - Confidentiality

Assessment:

- **Midterm Exam**: Written assessment on sociological concepts (30%)
- **Case Studies**: Analyze patient scenarios from a sociocultural perspective (20%)
- **Group Project**: Propose strategies to address oral health disparities (25%)
- **Final Exam**: Comprehensive assessment (25%)

Recommended Reading:

1. **"Sociology for Dentists"** by John A. Hughes
2. **"Health, Disease, and Society: An Introduction to Medical Sociology"** by Kevin White

Course Title: Pathological Basis of Human Disease

Course Description:

The "Pathological Basis of Human Disease" course explores the underlying mechanisms of diseases relevant to dentistry. It integrates elements of anatomy, physiology, biochemistry, pathology, medicine, surgery, pharmacology, immunology, and microbiology within the dental curriculum. Students will gain insights into pathological changes at macroscopic and microscopic levels.

Learning Objectives:

1. **Conceptual Understanding**: Comprehend fundamental concepts and theories related to pathology as it pertains to dentistry.
2. **Pathological Analysis**: Recognize and analyze pathological changes in tissues and organs.
3. **Clinical Application**: Understand the relationship between oral health and disease processes.

Topics Covered:

1. **Cell and Tissue Degeneration**:
    - Normal vs. abnormal cell function
    - Acute and chronic inflammation
2. **Healing and Repair Mechanisms**:
    - Wound healing
    - Regeneration vs. fibrosis
3. **Vascular Diseases**:
    - Atherosclerosis
    - Hypertension
4. **Infectious Diseases**:
    - Bacterial, viral, and fungal infections
    - Immune response

Assessment:

- **Midterm Examination**: Assess understanding of disease processes (30%)
- **Case Studies**: Analyze clinical scenarios related to pathological conditions (20%)
- **Laboratory Practical**: Microscopic examination of tissue samples (25%)
- **Final Examination**: Comprehensive assessment (25%)

Recommended Reading:

1. **"Robbins and Cotran Pathologic Basis of Disease"** by Vinay Kumar et al.
2. **"Pathophysiology of Disease: An Introduction to Clinical Medicine"** by Gary D. Hammer and Stephen J. McPhee

Course Title: Dental Clinical Practice 2

Course Description:

In this module, you will continue to develop your clinical skills as a primary care dental practitioner. The focus will be on practical aspects of dentistry, including routine restorations, simple periodontal treatment, endodontic procedures for single-rooted teeth, provision and management of dentures, and pediatric patient care.

Learning Objectives:

1. **Clinical Skills Enhancement**: Refine your ability to perform routine dental procedures.
2. **Patient Management**: Learn effective patient communication and management techniques.
3. **Emergency Preparedness**: Understand how to handle medical emergencies in a dental setting.

Topics Covered:

1. **Restorative Dentistry**:
    - Techniques for direct and indirect restorations
    - Materials and instrumentation
2. **Periodontal Treatment**:

    - Scaling and root planing
    - Maintenance of periodontal health
3. **Endodontics**:
    - Root canal therapy for single-rooted teeth
    - Pulpotomy procedures
4. **Prosthodontics**:
    - Denture fabrication and adjustments
    - Occlusion and denture stability
5. **Pediatric Dentistry**:
    - Behavior management for child patients
    - Preventive measures

Assessment:

- **Clinical Competency**: Evaluate your practical skills in various dental procedures (40%)
- **Case Presentations**: Discuss patient cases and treatment plans (20%)
- **Written Assignments**: Reflect on clinical experiences and decision-making (20%)
- **Final Examination**: Comprehensive assessment (20%)

Recommended Reading:

1. **"Clinical Periodontology and Implant Dentistry"** by Jan Lindhe and Niklaus P. Lang
2. **"Pathways of the Pulp"** by Stephen Cohen and Kenneth Hargreaves

Course Title: Head and Neck Anatomy

Course Description:

The **Head and Neck Anatomy** course provides a detailed study of the anatomical structures within the head and neck region. It focuses on the relevant structures for dental professionals, including bones, muscles, nerves, blood vessels, and organs. Emphasis is placed on clinical correlations and their impact on dental practice.

Learning Objectives:

1. **Anatomical Knowledge**: Understand the intricate anatomy of the head and neck.
2. **Clinical Relevance**: Recognize anatomical structures relevant to dental procedures.
3. **Applied Skills**: Develop practical skills for patient examination and treatment planning.

Topics Covered:

1. **Skull and Cranial Bones**:
    - Cranial sutures
    - Foramina and their contents
2. **Muscles of Mastication and Facial Expression**:
    - Temporalis, masseter, and pterygoid muscles
    - Facial muscles and their functions
3. **Nerves and Blood Supply**:
    - Trigeminal nerve (V)
    - Carotid artery branches

4. **Oral Cavity and Pharynx**:
    - Salivary glands
    - Palate and tonsils

Assessment:

- **Written Examination**: Test knowledge of anatomical structures (40%)
- **Cadaveric Dissection**: Identify structures in a practical setting (20%)
- **Clinical Correlations**: Apply anatomical knowledge to dental scenarios (20%)
- **Final Practical Exam**: Demonstrate proficiency (20%)

Recommended Reading:

1. **"Clinical Head and Neck Anatomy for Surgeons"** by Peter A. Brennan
2. **"Color Atlas of Head and Neck Anatomy"** by Johannes W. Rohen et al.

Course Title: Behavioural and Social Science Dentistry

Course Description:

This module addresses the psychological and sociological influences that affect dental health. It explores how dentists can assist in changing health behaviors to improve dental health. Students will gain insights into patient communication, cultural competence, and ethical considerations within dentistry.

Learning Objectives:

1. **Psychosocial Understanding**: Understand the impact of psychological factors on oral health.
2. **Health Behavior Modification**: Learn strategies to promote positive health behaviors.
3. **Cultural Competence**: Recognize cultural differences and their implications for patient care.

Topics Covered:

1. **Health Beliefs and Attitudes**:
    - Patient perceptions of dental care
    - Health literacy
2. **Communication Skills**:
    - Effective patient-provider communication
    - Motivational interviewing
3. **Ethical Considerations**:
    - Informed consent
    - Confidentiality

Assessment:

- **Reflective Assignments**: Analyze patient interactions and communication skills (30%)
- **Case Studies**: Apply behavioral theories to clinical scenarios (20%)
- **Group Discussions**: Explore cultural competence and ethical dilemmas (25%)

- **Final Assessment**: Comprehensive evaluation (25%)

Recommended Reading:

1. **"Health Psychology: Biopsychosocial Interactions"** by Edward P. Sarafino
2. **"Cultural Competence in Health Education and Health Promotion"** by Miguel A. Pérez and Raffy R. Luquis

Course Title: Communication for Professional Purposes

Course Description:

The **Communication for Professional Purposes** course focuses on developing effective communication skills essential for dental practitioners. It emphasizes patient interactions, interdisciplinary collaboration, and ethical communication within the dental team. Students will learn to convey information clearly, empathetically, and professionally.

Learning Objectives:

1. **Patient Communication**: Enhance verbal and non-verbal communication with patients.
2. **Interdisciplinary Collaboration**: Understand effective communication within the dental team.
3. **Ethical Considerations**: Learn about confidentiality, informed consent, and cultural competence.

Topics Covered:

1. **Verbal Communication**:
    - Patient interviews and history-taking
    - Explaining treatment options
2. **Non-Verbal Communication**:
    - Body language and active listening
    - Building rapport with patients
3. **Team Communication**:
    - Interprofessional collaboration
    - Handovers and referrals
4. **Ethics and Professionalism**:
    - Confidentiality and privacy
    - Cultural sensitivity

Assessment:

- **Role-Play Scenarios**: Demonstrate effective communication skills (30%)
- **Written Reflections**: Analyze communication challenges and strategies (20%)
- **Group Discussions**: Explore ethical dilemmas (25%)
- **Final Assessment**: Comprehensive evaluation (25%)

Recommended Reading:

1. **"Effective Communication in Dentistry"** by Crispian Scully

2. **“Ethics, Jurisprudence, and Practice Management in Dental Hygiene”** by Vickie J. Kimbrough-Walls

Course Title: Restorative Dentistry

Course Description:

The **Restorative Dentistry** course focuses on the diagnosis and management of dental defects, cavity preparation, instrumentation, and restorative procedures. It equips students with the skills needed for primary care dental practice.

Learning Objectives:

1. **Clinical Skills Enhancement**: Develop proficiency in routine restorations.
2. **Periodontal Treatment**: Understand simple periodontal procedures.
3. **Endodontics**: Learn about endodontic treatment for single-rooted teeth.
4. **Prosthodontics**: Explore denture provision and management.
5. **Pediatric Dentistry**: Study pediatric patient care.

Topics Covered:

1. **Cavity Preparation and Restoration Techniques**:
    - Types of restorations
    - Materials and techniques
2. **Periodontal Procedures**:
    - Scaling and root planing
    - Maintenance of periodontal health
3. **Endodontic Treatment**:
    - Root canal therapy for single-rooted teeth
    - Pulpotomy procedures
4. **Prosthodontics**:
    - Denture fabrication and adjustments
    - Occlusion and stability
5. **Pediatric Dentistry**:
    - Behavior management for child patients
    - Preventive measures

Assessment:

- **Clinical Competency**: Evaluate practical skills (40%)
- **Case Studies**: Apply knowledge to clinical scenarios (20%)
- **Written Assignments**: Reflect on experiences (20%)
- **Final Examination**: Comprehensive assessment (20%)

Recommended Reading:

1. **“Clinical Periodontology and Implant Dentistry”** by Jan Lindhe and Niklaus P. Lang
2. **“Pathways of the Pulp”** by Stephen Cohen and Kenneth Hargreaves

Course Title: Oral Microbiology

Course Description:

The **Oral Microbiology** course delves into the study of microorganisms relevant to oral health. It explores the role of bacteria, viruses, and fungi in dental diseases. Students will gain insights into infection control, antimicrobial agents, and oral microbiome dynamics.

Learning Objectives:

1. **Microbial Identification**: Understand common oral pathogens and their characteristics.
2. **Infection Prevention**: Learn infection control measures in dental practice.
3. **Antimicrobial Strategies**: Explore the use of antimicrobial agents in dentistry.

Topics Covered:

1. **Oral Microbiome**:
    - Normal flora vs. pathogens
    - Biofilm formation
2. **Dental Caries and Periodontal Diseases**:
    - Role of Streptococcus mutans
    - Gingivitis and periodontitis
3. **Infection Control**:
    - Sterilization techniques
    - Cross-contamination prevention
4. **Antimicrobial Agents**:
    - Antibiotics and antiseptics
    - Resistance mechanisms

Assessment:

- **Microbiology Examinations**: Test knowledge of oral pathogens (40%)
- **Laboratory Practical**: Identify microorganisms (20%)
- **Case Studies**: Apply principles to clinical scenarios (25%)
- **Final Assessment**: Comprehensive evaluation (15%)

Recommended Reading:

1. **“Oral Microbiology and Immunology”** by Richard J. Lamont and George N. Hajishengallis
2. **“Clinical Oral Microbiology”** by Philip D. Marsh et al.

Course Title: Dental Biochemistry

Course Description:

The **Dental Biochemistry** module provides a foundational understanding of biochemical processes relevant to oral health. It explores the molecular basis of dental diseases, nutrition, and metabolism. Students will learn how biochemical principles apply to clinical practice.

Learning Objectives:

1. **Oral Physiology and Biochemistry**: Understand the biochemical basis of oral health and disease.
2. **Nutrition and Dietetics**: Explore the impact of diet on oral health.
3. **Clinical Relevance**: Apply biochemistry knowledge to dental practice.

Topics Covered:

1. **Oral Physiology**:
    - Salivary composition
    - Enzymes in oral fluids
2. **Biochemical Basis of Dental Diseases**:
    - Dental caries and periodontal diseases
    - Role of oral microbiota
3. **Nutrition and Metabolism**:
    - Micronutrients essential for oral health
    - Dietary recommendations

Assessment:

- **Written Examinations**: Test understanding of biochemical concepts (40%)
- **Case Studies**: Apply biochemistry knowledge to clinical scenarios (20%)
- **Projects**: Investigate nutrition-related topics (25%)
- **Final Assessment**: Comprehensive evaluation (15%)

Recommended Reading:

1. **"Oral Biochemistry"** by Geoffrey H. Bourne and James Frederick Danielli
2. **"Nutrition and Oral Medicine"** by Riva Touger-Decker and Connie C. Mobley

Course Title: Pathophysiology and Pharmacology I

Course Description:

The **Pathophysiology and Pharmacology I** course provides a foundational understanding of the mechanisms underlying diseases relevant to dentistry. It explores pathological processes, inflammation, immune responses, and genetic factors. Additionally, it introduces essential pharmacological principles related to dental practice.

Learning Objectives:

1. **Pathophysiological Concepts**: Understand the pathogenesis of common diseases affecting oral health.
2. **Pharmacological Knowledge**: Learn about drug classes, mechanisms of action, and interactions.
3. **Clinical Relevance**: Apply pathophysiological and pharmacological principles to dental scenarios.

Topics Covered:

1. **Inflammation and Healing**:
    - Cellular responses to injury
    - Wound healing processes
2. **Immune Responses**:
    - Innate and adaptive immunity
    - Immunopathology in oral diseases
3. **Fluid and Electrolyte Imbalances**:
    - Homeostasis and disturbances
    - Oral manifestations of electrolyte disorders
4. **Pain Mechanisms and Management**:
    - Pain pathways
    - Analgesics and local anesthetics
5. **Genetics in Dentistry**:
    - Inherited conditions
    - Genetic counseling

Assessment:

- **Written Examinations**: Test understanding of pathophysiological concepts
- **Case Studies**: Apply knowledge to dental scenarios
- **Pharmacology Quizzes**: Assess understanding of drug classes
- **Final Assessment**: Comprehensive evaluation

Recommended Reading:

1. **"Pathophysiology: The Biologic Basis for Disease in Adults and Children"** by Kathryn L. McCance and Sue E. Huether
2. **"Pharmacology for Dentistry"** by Surender Singh and Shobha Tandon

Course Title: Mathematics Perspective B: Introduction to Statistics I

Course Description:

The **Introduction to Statistics** course provides foundational knowledge in statistical investigation and analysis. It equips students with essential skills for interpreting numerical information, conducting data analysis, and making informed conclusions. The course emphasizes critical thinking and effective communication of statistical results.

Learning Objectives:

1. **Statistical Investigation**: Understand the components of a statistical study.
2. **Study Design Evaluation**: Critique study designs and data collection methods.
3. **Data Analysis Techniques**: Learn about probability, confidence intervals, t-tests, p-values, and nonparametric methods.
4. **Regression and Correlation**: Explore simple linear regression and correlation analysis.

Topics Covered:

1. **Data Collection and Analysis**:
    - Steps in a statistical investigation
    - Characteristics of well-designed studies
2. **Probability and Inference**:
    - Confidence intervals
    - Statistical significance
3. **Hypothesis Testing**:
    - T-tests and p-values
    - Nonparametric methods
4. **Regression Analysis**:
    - Simple linear regression
    - Correlation coefficients

Assessment:

- **Assignments and Quizzes**: Apply statistical concepts (40%)
- **Critique Studies**: Evaluate research designs (20%)
- **Final Examination**: Comprehensive assessment (40%)

Recommended Reading:

1. **"Statistics"** by Robert S. Witte and John S. Witte
2. **"Introduction to Probability and Statistics"** by William Mendenhall et al.

Course Title: General Education: Health and Wellness

Course Description:

The **General Education: Health and Wellness** course provides foundational knowledge related to overall health and well-being. It aims to equip dental students with essential insights into maintaining personal health, understanding preventive measures, and promoting wellness within the context of dentistry.

Learning Objectives:

1. **Health Literacy**: Develop an understanding of health-related concepts and terminology.
2. **Self-Care and Stress Management**: Learn strategies for maintaining physical and mental well-being.
3. **Health Promotion**: Explore ways to encourage patients toward healthier lifestyles.

Topics Covered:

1. **Introduction to Health and Wellness**:
    - Definitions and dimensions of health
    - Importance of preventive care
2. **Nutrition and Oral Health**:
    - Role of diet in dental health
    - Nutritional counseling for patients

3. **Physical Fitness and Ergonomics**:
    - Exercise recommendations
    - Posture and ergonomic practices for dental professionals
4. **Mental Health Awareness**:
    - Stress management techniques
    - Recognizing signs of burnout
5. **Health Communication Skills**:
    - Effective patient education
    - Cultural competence

Assessment:

- **Health Reflections**: Personal reflections on health practices
- **Case Studies**: Apply health concepts to patient scenarios
- **Group Discussions**: Explore wellness strategies
- **Final Assessment**: Comprehensive evaluation

Recommended Reading:

1. **"Health Psychology: Biopsychosocial Interactions"** by Edward P. Sarafino
2. **"Nutrition and Oral Medicine"** by Riva Touger-Decker and Connie C. Mobley

Course Title: Psychosocial Aspects of Dentistry

Course Description:

The **Psychosocial Aspects of Dentistry** course explores the intersection of dentistry with sociology, psychology, and social psychology. It emphasizes understanding the impact of psychosocial factors on oral health programs and individual dental health behaviors. Students will gain insights into patient communication, cultural competence, and ethical considerations within dentistry.

Learning Objectives:

1. **Health Behavior and Social Context**: Understand how social, cultural, and environmental factors influence oral health.
2. **Effective Communication**: Develop communication skills for patient interactions.
3. **Ethical Considerations**: Recognize cultural differences and ethical dilemmas in dental practice.

Topics Covered:

1. **Sociological Perspectives**:
    - Social determinants of health
    - Cultural competence
2. **Psychological Factors**:
    - Patient beliefs and attitudes
    - Health behavior theories
3. **Communication Skills**:
    - Effective patient education
    - Cross-cultural communication

4. **Ethics in Dentistry**:
    - Informed consent
    - Confidentiality

Assessment:

- **Case Studies**: Apply psychosocial concepts to patient scenarios (30%)
- **Communication Exercises**: Practice patient interactions (20%)
- **Ethical Dilemmas**: Explore ethical considerations (25%)
- **Final Assessment**: Comprehensive evaluation (25%)

Recommended Reading:

1. **"Health Psychology: Biopsychosocial Interactions"** by Edward P. Sarafino
2. **"Cultural Competence in Health Education and Health Promotion"** by Miguel A. Pérez and Raffy R. Luquis

Course Title: Periodontal

Course Description:

The **Periodontal** course focuses on the study of periodontal diseases and their management. It explores the anatomy, physiology, and pathology of the periodontium, emphasizing prevention, diagnosis, and treatment. Students will gain practical skills in periodontal assessment and non-surgical therapies.

Learning Objectives:

1. **Periodontal Anatomy**: Understand the structures of the periodontium.
2. **Disease Pathogenesis**: Explore the etiology and progression of periodontal diseases.
3. **Clinical Skills**: Develop proficiency in periodontal assessment and treatment planning.

Topics Covered:

1. **Gingival Health and Disease**:
    - Gingivitis vs. periodontitis
    - Plaque control techniques
2. **Periodontal Examination**:
    - Probing depths and attachment levels
    - Radiographic assessment
3. **Non-Surgical Periodontal Therapy**:
    - Scaling and root planing
    - Local antimicrobial agents
4. **Periodontal Maintenance**:
    - Recall visits and supportive care
    - Patient education

Assessment:

- **Clinical Competency**: Evaluate periodontal skills (40%)

- **Case Studies**: Apply knowledge to patient scenarios (20%)
- **Written Assignments**: Reflect on treatment planning (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Clinical Periodontology and Implant Dentistry"** by Jan Lindhe and Niklaus P. Lang
2. **"Periodontology for the Dental Hygienist"** by Dorothy A. Perry and Phyllis L. Beemsterboer

Course Title: Prosthodontics

Course Description:

The **Prosthodontics** course focuses on the restoration and replacement of teeth. It covers the design and placement of crowns, bridges, dentures, and dental implants. Students will learn the principles of prosthodontic treatment and gain practical skills in restorative dentistry.

Learning Objectives:

1. **Restorative Techniques**: Understand various prosthodontic procedures.
2. **Patient Assessment**: Learn how to evaluate and plan for prosthodontic treatment.
3. **Material Selection**: Explore different materials used in prosthodontics.

Topics Covered:

1. **Fixed Prosthodontics**:
    - Crown and bridge design
    - Tooth preparation techniques
2. **Removable Prosthodontics**:
    - Denture fabrication
    - Overdentures
3. **Implant Dentistry**:
    - Dental implant components
    - Implant-supported prostheses
4. **Esthetics and Occlusion**:
    - Aesthetics in prosthodontics
    - Occlusal considerations

Assessment:

- **Clinical Competency**: Evaluate prosthodontic skills (40%)
- **Case Presentations**: Plan and present prosthodontic cases (20%)
- **Written Assignments**: Reflect on treatment planning (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Contemporary Fixed Prosthodontics"** by Stephen F. Rosenstiel et al.
2. **"Complete Dentures: From Planning to Problem Solving"** by Quintessence Publishing

Course Title: Dental Clinical Practice 3

Course Description:

The **Dental Clinical Practice 3** module builds upon previous clinical experiences, allowing students to further develop their practical skills in dental care. It focuses on more complex procedures, patient management, and emergency preparedness. Students will gain hands-on experience in a supervised clinical setting.

Learning Objectives:

1. **Advanced Clinical Skills**: Enhance proficiency in dental procedures.
2. **Patient Management**: Learn effective communication and patient-centered care.
3. **Emergency Response**: Understand protocols for handling medical emergencies.

Topics Covered:

1. **Complex Dental Procedures**:
    - Advanced restorations
    - Endodontic treatments
2. **Patient Management**:
    - Anxiety management
    - Pediatric patient care
3. **Medical Emergencies**:
    - Recognition and response
    - Basic life support

Assessment:

- **Clinical Competency**: Evaluate advanced dental skills (40%)
- **Case Studies**: Apply knowledge to complex patient scenarios (20%)
- **Emergency Drills**: Simulate emergency situations (25%)
- **Final Assessment**: Comprehensive evaluation (15%)

Recommended Reading:

1. **“Advanced Operative Dentistry: A Practical Approach”** by David Ricketts et al.
2. **“Medical Emergencies in Dentistry”** by Crispian Scully and Athanasios Kalantzis

Course Title: Endodontics

Course Description:

The **Endodontics** course focuses on the study and management of dental pulp and periapical diseases. It covers the diagnosis, treatment, and prevention of conditions related to the dental pulp and root canals. Students will gain practical skills in endodontic procedures.

Learning Objectives:

1. **Pulpal Pathology**: Understand the etiology and progression of pulp-related diseases.
2. **Endodontic Techniques**: Learn about root canal treatment and retreatment.

3. **Clinical Decision-Making**: Develop skills in case selection and treatment planning.

Topics Covered:

1. **Pulpal Anatomy and Physiology**:
    - Pulpal blood supply and innervation
    - Pulpal response to injury
2. **Diagnosis and Radiographic Interpretation**:
    - Clinical signs and symptoms
    - Interpretation of periapical radiographs
3. **Root Canal Treatment**:
    - Access cavity preparation
    - Cleaning and shaping of root canals
4. **Endodontic Materials and Techniques**:
    - Obturation methods
    - Use of rotary instruments

Assessment:

- **Clinical Competency**: Evaluate endodontic skills (40%)
- **Case Studies**: Apply knowledge to patient scenarios (20%)
- **Written Assignments**: Reflect on treatment planning (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Pathways of the Pulp"** by Stephen Cohen and Kenneth Hargreaves
2. **"Endodontics: Principles and Practice"** by Mahmoud Torabinejad et al.

Course Title: Radiology

Course Description:

The **Radiology** course provides essential knowledge and skills related to dental imaging techniques. It focuses on the safe and effective use of X-rays, panoramic radiographs (OPG), and other imaging modalities for diagnosing common disorders of the orofacial region. Students will learn about radiation protection, psychosomatic aspects of oral diseases, and the interpretation of radiographic images.

Learning Objectives:

1. **Radiographic Techniques**: Understand the history, production, and properties of X-rays.
2. **Diagnostic Skills**: Learn how to properly position patients and interpret dental images.
3. **Radiation Safety**: Explore principles of radiation protection.

Topics Covered:

1. **Introduction to Dental Radiology**:
    - Historical context
    - Radiation safety guidelines

2. **Radiographic Imaging Modalities**:
    - Intraoral X-rays
    - Panoramic radiographs (OPG)
3. **Interpretation of Radiographs**:
    - Recognizing normal anatomy
    - Identifying pathological conditions
4. **Psychosomatic Aspects of Oral Diseases**:
    - Understanding patient anxiety related to imaging
    - Communicating radiographic findings to patients

Assessment:

- **Radiographic Interpretation**: Evaluate students' ability to analyze dental images (40%)
- **Case Studies**: Apply radiology knowledge to clinical scenarios (20%)
- **Written Assignments**: Reflect on radiation safety and patient communication (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Essentials of Dental Radiography and Radiology"** by Eric Whaites
2. **"Oral Radiology: Principles and Interpretation"** by Stuart C. White and Michael J. Pharoah

Course Title: Pathophysiology and Pharmacology II

Course Description:

The **Pathophysiology and Pharmacology II** course builds upon foundational knowledge from the previous course. It delves deeper into the mechanisms underlying diseases relevant to dentistry and introduces advanced pharmacological concepts. Students will learn about drug interactions, adverse effects, and evidence-based prescribing.

Learning Objectives:

1. **Advanced Pathophysiology**: Understand complex disease processes affecting oral health.
2. **Pharmacological Principles**: Explore drug classes, mechanisms of action, and clinical applications.
3. **Clinical Decision-Making**: Apply pathophysiological and pharmacological knowledge to dental scenarios.

Topics Covered:

1. **Cardiovascular and Respiratory Disorders**:
    - Hypertension
    - Asthma and COPD
2. **Endocrine and Metabolic Diseases**:
    - Diabetes mellitus
    - Thyroid disorders
3. **Pharmacotherapy in Dentistry**:

    - Analgesics and anti-inflammatory drugs
    - Antibiotics and antifungals
4. **Drug Interactions and Adverse Effects**:
    - Polypharmacy considerations
    - Allergic reactions

Assessment:

- **Case Studies**: Apply knowledge to complex patient scenarios (40%)
- **Pharmacology Quizzes**: Assess understanding of drug interactions (20%)
- **Evidence-Based Prescribing**: Evaluate appropriate drug choices (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Pharmacology for Dentistry"** by Surender Singh and Shobha Tandon
2. **"Pathophysiology: The Biologic Basis for Disease in Adults and Children"** by Kathryn L. McCance and Sue E. Huether

Course Title: Anesthesia

Course Description:

The **Anesthesia** course provides essential knowledge and skills related to dental anesthesia techniques. It focuses on safe administration, patient management, and pain control during dental procedures. Students will learn about local anesthesia, sedation, and general anesthesia within the context of dentistry.

Learning Objectives:

1. **Anesthetic Techniques**: Understand different anesthesia modalities used in dentistry.
2. **Patient Safety**: Learn about drug interactions, adverse effects, and emergency protocols.
3. **Clinical Application**: Apply anesthesia principles to dental practice.

Topics Covered:

1. **Local Anesthesia**:
    - Pharmacology and mechanisms of action
    - Nerve blocks and infiltration techniques
2. **Sedation and Analgesia**:
    - Conscious sedation
    - Pain management during procedures
3. **General Anesthesia**:
    - Indications and contraindications
    - Anesthetic agents and monitoring
4. **Emergency Preparedness**:
    - Recognizing and managing adverse reactions
    - Basic life support

Assessment:

- **Clinical Competency**: Evaluate anesthesia administration skills (40%)
- **Case Scenarios**: Apply knowledge to patient management (20%)
- **Written Assignments**: Reflect on drug interactions and safety protocols (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Handbook of Local Anesthesia"** by Stanley F. Malamed
2. **"Essentials of Dental Anesthesia"** by Stanley R. Malamed

Course Title: Foundations of Oral Surgery

Course Description:

The **Foundations of Oral Surgery** course provides fundamental knowledge and skills related to oral and maxillofacial surgery. It covers both theoretical and clinical aspects, emphasizing the essential role of basic sciences in successful surgical practice. Students will learn about surgical techniques, patient management, and ethical considerations.

Learning Objectives:

1. **Surgical Principles**: Understand the principles of oral and maxillofacial surgery.
2. **Patient Assessment**: Learn how to evaluate and plan for surgical procedures.
3. **Clinical Skills**: Develop proficiency in basic surgical techniques.

Topics Covered:

1. **Surgical Anatomy**:
    - Head and neck structures
    - Nerve and blood vessel pathways
2. **Exodontia (Tooth Extractions)**:
    - Simple and surgical extractions
    - Complications and management
3. **Minor Oral Surgery Procedures**:
    - Biopsies
    - Soft tissue surgeries
4. **Pain Management and Anesthesia**:
    - Local anesthesia techniques
    - Postoperative pain control

Assessment:

- **Clinical Competency**: Evaluate surgical skills (40%)
- **Case Studies**: Apply knowledge to patient scenarios (20%)
- **Written Assignments**: Reflect on surgical planning and patient care (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **“Oral and Maxillofacial Surgery”** by Lars Andersson et al.
2. **“Contemporary Oral and Maxillofacial Surgery”** by James R. Hupp et al.

Course Title: Oral Medicine and Oral Pathology

Course Description:

The **Oral Medicine and Oral Pathology** course provides essential knowledge about diseases affecting the oral and maxillofacial region. It covers both theoretical and clinical aspects, emphasizing the diagnosis, management, and prevention of oral diseases. Students will learn about the principles of patient assessment, treatment planning, and ethical considerations.

Learning Objectives:

1. **Pathological Understanding**: Understand the etiology, progression, and manifestations of oral diseases.
2. **Clinical Skills**: Develop proficiency in diagnosing and managing oral conditions.
3. **Patient-Centered Care**: Learn how to communicate effectively with patients regarding their oral health.

Topics Covered:

1. **Oral Pathology**:
    - Inflammatory and neoplastic conditions
    - Oral manifestations of systemic diseases
2. **Oral Medicine**:
    - Diagnosis and management of oral mucosal disorders
    - Temporomandibular joint (TMJ) disorders
3. **Radiographic Interpretation**:
    - Recognizing pathological changes on dental radiographs
    - Cone beam computed tomography (CBCT) in oral pathology
4. **Ethical Considerations**:
    - Informed consent
    - Confidentiality and patient autonomy

Assessment:

- **Clinical Competency**: Evaluate diagnostic skills (40%)
- **Case Studies**: Apply knowledge to patient scenarios (20%)
- **Written Assignments**: Reflect on treatment planning and ethical dilemmas (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **“Oral Pathology: Clinical Pathologic Correlations”** by Joseph A. Regezi et al.
2. **“Oral Medicine and Medically Complex Patients”** by Peter B. Lockhart et al.

Course Title: Oral and Maxillofacial Pathology

Course Description:

The **Oral and Maxillofacial Pathology** course provides essential knowledge about diseases affecting the oral and maxillofacial region. It covers both theoretical and clinical aspects, emphasizing the diagnosis, management, and prevention of oral diseases. Students will learn about the principles of patient assessment, treatment planning, and ethical considerations.

Learning Objectives:

1. **Pathological Understanding**: Understand the etiology, progression, and manifestations of oral diseases.
2. **Clinical Skills**: Develop proficiency in diagnosing and managing oral conditions.
3. **Patient-Centered Care**: Learn how to communicate effectively with patients regarding their oral health.

Topics Covered:

1. **Oral Pathology**:
    - Inflammatory and neoplastic conditions
    - Oral manifestations of systemic diseases
2. **Oral Medicine**:
    - Diagnosis and management of oral mucosal disorders
    - Temporomandibular joint (TMJ) disorders
3. **Radiographic Interpretation**:
    - Recognizing pathological changes on dental radiographs
    - Cone beam computed tomography (CBCT) in oral pathology
4. **Ethical Considerations**:
    - Informed consent
    - Confidentiality and patient autonomy

Assessment:

- **Clinical Competency**: Evaluate diagnostic skills
- **Case Studies**: Apply knowledge to patient scenarios
- **Written Assignments**: Reflect on treatment planning and ethical dilemmas
- **Final Examination**: Comprehensive assessment

Recommended Reading:

1. **“Oral Pathology: Clinical Pathologic Correlations”** by Joseph A. Regezi et al.
2. **“Oral Medicine and Medically Complex Patients”** by Peter B. Lockhart et al.

Course Title: Indigenous Health

Course Description:

The **Indigenous Health** course is designed to provide dental students with a comprehensive understanding of Indigenous health issues, cultural competence, and the unique challenges faced by Aboriginal and Torres Strait Islander communities. The curriculum integrates

Indigenous perspectives into dental practice, emphasizing the importance of culturally sensitive care and community engagement.

Learning Objectives:

1. **Cultural Competence**: Develop an awareness of cultural diversity and its impact on health outcomes.
2. **Health Disparities**: Understand the social determinants of health affecting Indigenous populations.
3. **Community Engagement**: Learn how to collaborate effectively with Indigenous communities.

Topics Covered:

1. **Introduction to Indigenous Health**:
    - Historical context
    - Cultural safety principles
2. **Social Determinants of Health**:
    - Land, education, employment, and housing
    - Impact on oral health
3. **Cultural Awareness and Sensitivity**:
    - Communication with Indigenous patients
    - Traditional healing practices
4. **Community-Based Programs**:
    - Oral health promotion initiatives
    - Working in remote and rural settings

Assessment:

- **Reflective Assignments**: Explore personal cultural biases and growth
- **Case Studies**: Apply cultural competence to patient scenarios
- **Community Engagement Project**: Collaborate with Indigenous communities
- **Final Examination**: Comprehensive assessment

Recommended Reading:

1. **"Cultural Competence in Health Education and Health Promotion"** by Miguel A. Pérez and Raffy R. Luquis
2. **"Indigenous Health: A Practical Guide for Health Professionals"** by Kerry Taylor and Sue Blackmore

Course Title: Research Methods

Course Description:

The **Research Methods** course equips dental students with essential skills for conducting scientific research in oral health. It focuses on research design, data collection, analysis, and interpretation. Students will learn how to critically evaluate existing literature and contribute to evidence-based dentistry.

Learning Objectives:

1. **Research Design**: Understand different research methodologies and study designs.
2. **Data Collection and Analysis**: Learn practical techniques for gathering and analyzing dental data.
3. **Critical Appraisal**: Develop skills to evaluate research articles and apply findings to clinical practice.

Topics Covered:

1. **Introduction to Research**:
    - Importance of research in dentistry
    - Ethical considerations
2. **Quantitative Research Methods**:
    - Surveys and questionnaires
    - Observational studies
3. **Qualitative Research Techniques**:
    - Interviews and focus groups
    - Content analysis
4. **Statistical Analysis**:
    - Descriptive statistics
    - Inferential tests (t-tests, ANOVA, regression)

Assessment:

- **Research Proposal**: Develop a research question and design (40%)
- **Literature Review**: Critically analyze relevant studies (20%)
- **Data Analysis Project**: Apply statistical methods to dental data (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Research Methods in Dentistry"** by Michael G. Newman and Henry H. Takei
2. **"Evidence-Based Dentistry: An Introduction"** by Allan Hackshaw

Course Title: Dental Clinical Practice 4

Course Description:

The **Dental Clinical Practice 4** module enables students to consolidate the practice of a wide range of primary care dental procedures. It builds upon previous clinical experiences, allowing students to work more independently, assess situations, and make safe and appropriate decisions in managing patient care. This module emphasizes advanced clinical skills, critical thinking, and patient-centered care.

Learning Objectives:

1. **Clinical Proficiency**: Develop advanced skills in dental procedures.
2. **Independent Decision-Making**: Assess situations and make informed clinical judgments.
3. **Patient Management**: Provide comprehensive care with a focus on patient needs.

Topics Covered:

1. **Advanced Restorative Techniques**:
    - Complex restorations
    - Aesthetic dentistry
2. **Treatment Planning and Case Management**:
    - Comprehensive patient care
    - Multidisciplinary approaches
3. **Clinical Problem-Solving**:
    - Diagnosing complex cases
    - Evidence-based treatment options

Assessment:

- **Clinical Competency**: Evaluate advanced dental skills (40%)
- **Case Studies**: Apply knowledge to complex patient scenarios (20%)
- **Treatment Planning Exercises**: Develop comprehensive treatment plans (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Advanced Operative Dentistry: A Practical Approach"** by David Ricketts et al.
2. **"Contemporary Fixed Prosthodontics"** by Stephen F. Rosenstiel et al.

Course Title: General Medicine and Surgery for Dental Practice

Course Description:

The **General Medicine and Surgery for Dental Practice** course provides essential knowledge about medical conditions relevant to dental practice. It focuses on understanding systemic diseases, medical emergencies, and interdisciplinary collaboration. Students will learn how to assess patients' overall health and manage dental care in conjunction with medical considerations.

Learning Objectives:

1. **Medical Assessment**: Develop skills in evaluating patients' medical histories and identifying relevant health conditions.
2. **Interdisciplinary Collaboration**: Understand the importance of working with medical professionals to provide comprehensive care.
3. **Emergency Preparedness**: Learn how to handle medical emergencies in the dental setting.

Topics Covered:

1. **Systemic Diseases and Oral Health**:
    - Cardiovascular diseases
    - Diabetes and its impact on oral health
2. **Medical Emergencies in Dentistry**:
    - Recognition and management of allergic reactions
    - Basic life support techniques

3. **Medication Interactions and Dental Treatment**:
    - Common medications and their implications for dental procedures
    - Anticoagulants and bleeding risk
4. **Collaboration with Medical Professionals**:
    - Communication with physicians and specialists
    - Coordinating care for patients with complex medical histories

Assessment:

- **Case Studies**: Apply medical knowledge to patient scenarios (40%)
- **Emergency Drills**: Simulate medical emergencies (20%)
- **Written Assignments**: Reflect on interdisciplinary collaboration (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Medical Emergencies in Dentistry"** by Crispian Scully and Athanasios Kalantzis
2. **"Oral and Maxillofacial Medicine: The Basis of Diagnosis and Treatment"** by Crispian Scully

Course Title: Oral Surgery

Course Description:

The **Oral Surgery** course provides essential knowledge and skills related to surgical procedures within the oral and maxillofacial region. It focuses on the diagnosis, management, and treatment of conditions such as impacted teeth, cysts, and oral pathology. Students will learn about surgical techniques, patient assessment, and ethical considerations.

Learning Objectives:

1. **Surgical Techniques**: Understand various oral surgical procedures.
2. **Patient Assessment**: Learn how to evaluate patients for surgical interventions.
3. **Ethical and Professional Practice**: Explore the responsibilities of an oral surgeon.

Topics Covered:

1. **Exodontia (Tooth Extractions)**:
    - Simple and surgical extractions
    - Management of impacted teeth
2. **Oral Pathology and Biopsies**:
    - Diagnosis and treatment of oral lesions
    - Soft tissue and bone biopsies
3. **Management of Odontogenic Infections**:
    - Principles of infection control
    - Drainage and antibiotic therapy
4. **Pre-Prosthetic Surgery**:
    - Alveolar ridge preservation
    - Frenectomy procedures

Assessment:

- **Clinical Competency**: Evaluate surgical skills (40%)
- **Case Studies**: Apply knowledge to patient scenarios (20%)
- **Written Assignments**: Reflect on treatment planning and ethical dilemmas (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **"Oral and Maxillofacial Surgery"** by Lars Andersson et al.
2. **"Contemporary Oral and Maxillofacial Surgery"** by James R. Hupp et al.

Course Title: Orthodontics and Pediatric Dentistry

Course Description:

The **Orthodontics and Pediatric Dentistry** course provides essential knowledge and skills related to the diagnosis, prevention, and treatment of dental and facial irregularities in children and adolescents. It covers both theoretical and clinical aspects, emphasizing the importance of early intervention and patient-centered care. Students will learn about orthodontic techniques, growth and development, and managing pediatric patients.

Learning Objectives:

1. **Orthodontic Principles**: Understand the principles of orthodontic treatment.
2. **Pediatric Dentistry**: Learn about the unique needs of pediatric patients.
3. **Interdisciplinary Collaboration**: Explore the role of orthodontics in comprehensive dental care.

Topics Covered:

1. **Growth and Development**:
    - Craniofacial growth patterns
    - Dental development milestones
2. **Orthodontic Techniques**:
    - Diagnosis and treatment planning
    - Fixed and removable appliances
3. **Pediatric Patient Management**:
    - Behavior management techniques
    - Preventive dentistry for children
4. **Interceptive Orthodontics**:
    - Early intervention for malocclusions
    - Space maintenance

Assessment:

- **Clinical Competency**: Evaluate orthodontic and pediatric dental skills (40%)
- **Case Studies**: Apply knowledge to patient scenarios (20%)
- **Written Assignments**: Reflect on treatment planning and patient communication (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **“Contemporary Orthodontics”** by William R. Proffit et al.
2. **“Pediatric Dentistry: Infancy Through Adolescence”** by Paul S. Casamassimo et al.

Course Title: Advanced Statistics for Dental Research

Course Description:

The **Advanced Statistics for Dental Research** course equips dental students with advanced statistical techniques essential for conducting rigorous research in oral health. It focuses on specialized methods for analyzing dental data, interpreting research findings, and contributing to evidence-based dentistry. Students will learn how to apply statistical tools to address complex research questions.

Learning Objectives:

1. **Advanced Statistical Methods**: Understand specialized statistical techniques relevant to dental research.
2. **Data Analysis and Interpretation**: Learn how to analyze and interpret dental data effectively.
3. **Critical Appraisal of Research**: Develop skills to evaluate statistical methods used in dental studies.

Topics Covered:

1. **Multivariate Analysis**:
    - Regression models (linear, logistic, Poisson)
    - Factor analysis and principal component analysis
2. **Experimental Design**:
    - Randomized controlled trials
    - Cross-over designs
3. **Nonparametric Statistics**:
    - Mann-Whitney U test
    - Kruskal-Wallis test
4. **Meta-Analysis**:
    - Combining evidence from multiple studies
    - Forest plots

Assessment:

- **Data Analysis Projects**: Apply advanced statistical methods to dental datasets (40%)
- **Critical Review of Research Articles**: Evaluate statistical approaches in published studies (20%)
- **Written Assignments**: Reflect on statistical concepts and their application (25%)
- **Final Examination**: Comprehensive assessment (15%)

Recommended Reading:

1. **“Applied Multivariate Statistical Analysis”** by Richard A. Johnson and Dean W. Wichern
2. **“Biostatistics: A Foundation for Analysis in the Health Sciences”** by Wayne W. Daniel and Chad L. Cross

Course Title: Advanced Periodontal

Course Description:

This course builds upon foundational knowledge of periodontics. It focuses on advanced diagnosis, treatment planning, and management of periodontal diseases. Emphasis is placed on evidence-based practice and clinical skills.

Learning Objectives:

Upon completion of this course, students will be able to:

- **Understand** the etiology, pathogenesis, and risk factors of periodontal diseases.
- **Master** non-surgical and surgical techniques for periodontal therapy.
- **Evaluate** treatment outcomes and patient care.

Topics Covered:

1. **Periodontal Anatomy and Histology**:
    - Detailed study of periodontal tissues, including gingiva, cementum, and periodontal ligament.
2. **Diagnosis and Classification of Periodontal Diseases**:
    - Examination methods, radiographic assessment, and disease classification.
3. **Non-surgical Periodontal Therapy**:
    - Scaling and root planing, adjunctive therapies, and patient education.
4. **Surgical Techniques**:
    - Flap surgery, regenerative procedures, and mucogingival surgery.
5. **Implant-related Periodontics**:
    - Integration of dental implants with periodontal tissues.

Assessment:

- Written exams covering theory and clinical knowledge.
- Clinical case presentations demonstrating treatment planning skills.
- Practical skills assessments in periodontal procedures.

Recommended Reading:

1. “Carranza’s Clinical Periodontology” by Newman et al.
2. “Clinical Periodontology and Implant Dentistry” by Lindhe et al.

Course Title: Prosthodontics II

Course Description:

This course integrates advanced prosthodontics, detailed anatomical study, and oral histology. It prepares students for clinical practice by enhancing their understanding of prosthodontic procedures, oral structures, and histological features.

Learning Objectives:

Upon completion of this course, students will be able to:

- **Apply** prosthodontic principles to restore missing teeth and oral function.
- **Analyze** anatomical structures relevant to dental practice.
- **Identify** histological features of oral tissues.

Topics Covered:

1. **Advanced Prosthodontics**:
    - Removable partial dentures
    - Fixed prosthodontics (crowns, bridges)
    - Implant-supported prostheses
2. **Oral Anatomy**:
    - Detailed study of oral structures (teeth, gingiva, tongue, salivary glands)
    - Occlusion and masticatory system
    - Temporomandibular joint
3. **Histology of Oral Tissues**:
    - Microscopic examination of enamel, dentin, pulp, periodontal ligament, and alveolar bone

Assessment:

- Written exams covering prosthodontic theory and oral anatomy.
- Practical assessments in prosthodontic techniques.
- Histological slide analysis.

Recommended Reading:

1. “Contemporary Fixed Prosthodontics” by Rosenstiel et al.
2. “Wheeler’s Dental Anatomy, Physiology, and Occlusion” by Ash and Nelson.

Course Title: Dental Clinical Practice 5

Course Description:

This course is designed to prepare senior dental students for real-world clinical practice. It builds upon foundational knowledge and practical skills acquired in earlier years. Students will engage in patient care, refine clinical techniques, and develop professional behaviors.

Learning Objectives:

By the end of this course, students will be able to:

- **Apply** advanced clinical skills in various dental procedures.
- **Demonstrate** effective communication with patients and interdisciplinary teams.
- **Evaluate** treatment outcomes and patient satisfaction.

Topics Covered:

1. **Clinical Procedures**:
    - Advanced restorative dentistry
    - Endodontics
    - Periodontal therapy
    - Oral surgery
2. **Patient Management**:
    - Case selection and treatment planning
    - Informed consent and ethical considerations
    - Pain management and anxiety control
3. **Professionalism and Ethics**:
    - Legal and regulatory aspects
    - Patient confidentiality
    - Cultural competence

Assessment:

- Clinical competency assessments
- Case presentations
- Reflective portfolios
- Peer evaluations

Recommended Reading:

1. “Clinical Problem Solving in Dentistry” by Odell
2. “Contemporary Oral and Maxillofacial Surgery” by Hupp et al.

Course Title: Gerodontics, Special Needs Dentistry, and Dental Public Health

Course Description:

This course integrates three essential areas of dental practice:

Gerodontics:

Gerodontics focuses on the general physiological aspects of aging. It addresses health and disease burdens specific to the elderly population. Topics include speech, nutrition, therapeutic drug implications, and oral health care in aging patients.

Special Needs Dentistry:

This area examines patients with unique needs, such as physical, intellectual, or medical conditions. It covers tailored dental care, including evaluation and treatment decision-making for these special populations.

Dental Public Health:

Dental public health explores community-based oral health strategies. Students learn research methodologies and engage in community health projects to address oral health needs within the population.

Learning Objectives:

By completing this course, students will:

- **Understand** research methods in dentistry.
- **Provide competent dental care** for geriatric patients and those with special needs.
- **Address** dental public health needs within the community.

Topics Covered:

1. Physiological aspects of aging
2. Oral diseases significant in the elderly
3. Therapeutic drug considerations
4. Special needs patient evaluation
5. Community health issues

Assessment:

- Clinical competency assessments
- Case presentations
- Research project in dental public health

Recommended Reading:

1. “Clinical Problem Solving in Dentistry” by Odell
2. “Contemporary Oral and Maxillofacial Surgery” by Hupp et al.

Course Title: Clinical Pharmacology

Course Description:

Clinical Pharmacology explores the use of drugs in dentistry. Students learn about indications, contraindications, side effects, and interactions of medications relevant to dental practice. The course emphasizes safe and effective drug administration.

Learning Objectives:

By completing this course, students will be able to:

- **Apply** pharmacological knowledge to patient care.
- **Evaluate** appropriate drug choices for dental procedures.
- **Understand** drug interactions and adverse effects.

Topics Covered:

1. **Pharmacokinetics and Pharmacodynamics**:
    - Drug absorption, distribution, metabolism, and elimination.
    - Mechanisms of drug action.
2. **Common Dental Medications**:
    - Local anesthetics
    - Analgesics
    - Antibiotics
    - Sedatives
3. **Drug Interactions and Adverse Reactions**:
    - Recognizing potential interactions.
    - Managing adverse effects.

Assessment:

- Written exams on drug knowledge.
- Case studies involving drug selection.
- Practical assessments in safe drug administration.

Recommended Reading:

1. “Pharmacology and Therapeutics for Dentistry” by Dowd and Johnson.
2. “Basic and Clinical Pharmacology” by Katzung et al.

Course Title: Advanced Oral Surgery

Course Description:

The Advanced Oral Surgery course delves into specialized surgical procedures within dentistry. Students will acquire in-depth knowledge and practical skills related to oral and maxillofacial surgery. Emphasis is placed on evidence-based practice, patient safety, and interdisciplinary collaboration.

Learning Objectives:

Upon completion of this course, students will be able to:

- **Perform** complex extractions, including impacted teeth.
- **Master** surgical techniques for soft tissue and bone procedures.
- **Evaluate** patient suitability for oral surgery.

Topics Covered:

1. **Exodontia**:
    - Surgical extraction of impacted and non-impacted teeth.
    - Management of complications.

2. **Soft Tissue Surgery**:
    - Biopsies and lesion removal.
    - Flap design and suturing techniques.
3. **Bone Surgery**:
    - Alveolar ridge preservation.
    - Sinus lift procedures.
4. **Medical Considerations**:
    - Preoperative assessment and risk management.

Assessment:

- Clinical competency evaluations.
- Case presentations.
- Surgical logbook documenting procedures.

Recommended Reading:

1. “Oral and Maxillofacial Surgery” by Fonseca et al.
2. “Contemporary Oral and Maxillofacial Surgery” by Hupp et al.

Course Title: Professional Practice I

Course Description:

Professional Practice I provides foundational knowledge and practical skills essential for dental practice. It introduces you to the clinical environment, teamwork, and patient-centered care. You’ll learn alongside experts from various healthcare disciplines, gaining insights into the impact and importance of the dental team.

Learning Objectives:

By completing this course, you will:

- **Experience** oral healthcare in primary care general practice.
- **Learn** about diseases, health problems, and social/environmental factors affecting oral health.
- **Understand** the vital role of the dental team.

Topics Covered:

1. **Clinical Foundations**:
    - Scientific basis of healthy structure, function, and behavior.
    - Dental health and disease prevention.
2. **Teamwork and Collaboration**:
    - Importance of interdisciplinary engagement.
    - Working effectively within the dental team.

Assessment:

- Clinical competency evaluations.
- Patient interaction experiences.

- Reflection on teamwork and professional development.

Recommended Reading:

1. “Clinical Problem Solving in Dentistry” by Odell.
2. “Contemporary Oral and Maxillofacial Surgery” by Hupp et al.

Course Title: Dental Clinical Practice 6

Course Description:

Dental Clinical Practice 6 is an advanced clinical course that builds upon previous dental training. It provides students with hands-on experience in various dental procedures, emphasizing patient care, evidence-based practice, and interdisciplinary collaboration. Students will refine their clinical skills and develop a deeper understanding of complex cases.

Learning Objectives:

By completing this course, students will be able to:

- **Apply** advanced clinical techniques in restorative dentistry, endodontics, and oral surgery.
- **Evaluate** treatment options for complex cases.
- **Demonstrate** effective communication with patients and colleagues.

Topics Covered:

1. **Restorative Dentistry**:
    - Advanced restorations (crowns, bridges)
    - Aesthetic dentistry
    - Treatment planning for compromised dentition
2. **Endodontics**:
    - Root canal therapy
    - Surgical endodontics
    - Management of complex cases
3. **Oral Surgery**:
    - Surgical extractions
    - Implant placement
    - Management of oral pathology

Assessment:

- Clinical competency evaluations
- Case presentations
- Reflective portfolio on patient management

Recommended Reading:

1. “Contemporary Fixed Prosthodontics” by Rosenstiel et al.
2. “Endodontics: Principles and Practice” by Torabinejad et al.

Course Title: Implant Dentistry

Course Description:

The Implant Dentistry course equips students with essential knowledge and skills related to dental implants. It covers safe surgical techniques, patient selection, and radiographic evaluation. Students learn about implant components, surgical anatomy, and planning using CBCT software.

Learning Objectives:

By completing this course, students will:

- Understand the fundamentals of safe implant surgery.
- Familiarize themselves with surgical techniques and required equipment.
- Learn to assess patient suitability for dental implant treatment.

Topics Covered:

1. **Surgical Anatomy and Techniques**:
    - Understanding anatomical structures relevant to implant placement.
    - Surgical protocols for successful implant integration.
2. **Patient Selection and Evaluation**:
    - Criteria for identifying suitable implant candidates.
    - Radiographic assessment and treatment planning.
3. **Implant Components and Planning**:
    - Types of dental implants and prosthetic components.
    - Utilizing CBCT software for precise implant placement.

Assessment:

- Practical assessments in surgical techniques.
- Case studies involving patient selection and treatment planning.
- Radiographic evaluation exercises.

Recommended Reading:

1. “A Dentist’s Guide to Implantology” (Online course by Ark, ADI).
2. Additional resources recommended by the course instructors.

Course Title: Advanced Prosthodontics

Course Description:

The Advanced Prosthodontics course delves into specialized aspects of restorative dentistry. It focuses on the provision and maintenance of prostheses, including crowns, bridges, and dentures. Students learn techniques for restoring missing teeth, achieving aesthetic harmony, and ensuring patient comfort using various materials.

Learning Objectives:

By completing this course, students will:

- **Master** advanced prosthodontic techniques.
- **Evaluate** patient cases for appropriate treatment planning.
- **Apply** evidence-based approaches to restorative dentistry.

Topics Covered:

1. **Fixed Prosthodontics**:
    - Crown and bridge design and fabrication.
    - Restoration of single and multiple missing teeth.
2. **Removable Prosthodontics**:
    - Complete dentures and partial dentures.
    - Impression techniques and occlusal considerations.
3. **Aesthetic Dentistry**:
    - Shade selection, smile design, and veneers.

Assessment:

- Clinical competency evaluations.
- Case presentations.
- Laboratory work on prosthodontic restorations.

Recommended Reading:

1. “Contemporary Fixed Prosthodontics” by Rosenstiel et al.
2. Additional resources recommended by the course instructors.

Course Title: Professional Practice II

Course Description:

The **Professional Practice II** module aims to continue developing your clinical skills as a primary care dental practitioner. Throughout this course, you’ll enhance your abilities in various areas, including routine restorations, simple periodontal treatment, endodontic treatment of single-rooted teeth, provision and management of dentures, and the care of pediatric patients.

Learning Objectives:

By completing this course, you will:

- **Refine** your clinical skills in restorative dentistry.
- **Master** techniques for periodontal treatment and endodontics.
- **Gain competence** in managing pediatric patients and providing denture care.

Topics Covered:

1. **Routine Restorations**:

    - Techniques for restoring damaged teeth.
    - Materials and procedures for routine fillings.
2. **Periodontal Treatment**:
    - Simple periodontal procedures for maintaining gum health.
    - Scaling, root planing, and patient education.
3. **Endodontic Treatment**:
    - Root canal therapy for single-rooted teeth.
    - Diagnosis and management of pulp-related issues.
4. **Denture Provision and Management**:
    - Fabrication, adjustment, and maintenance of dentures.
    - Patient communication and denture hygiene.

Assessment:

- Clinical competency evaluations.
- Case-based assessments.
- Practical demonstrations of skills.

Recommended Reading:

1. “Clinical Problem Solving in Dentistry” by Odell.
2. Additional resources recommended by the course instructors.

Course Title: Advanced Gerodontics

Course Description:

The **Advanced Gerodontics** course focuses on specialized aspects of dental care for elderly patients. It equips students with the knowledge and skills necessary to address the unique oral health needs of aging populations. Emphasis is placed on evidence-based practice, interdisciplinary collaboration, and patient-centered care.

Learning Objectives:

By completing this course, students will:

- **Understand** the physiological changes associated with aging.
- **Apply** geriatric-specific treatment approaches in dental practice.
- **Evaluate** patient cases considering medical complexities and social factors.

Topics Covered:

1. **Geriatric Assessment**:
    - Comprehensive health evaluation for elderly patients.
    - Cognitive and functional assessment.
2. **Oral Health in Aging**:
    - Common dental conditions in older adults.
    - Strategies for preventive care and management.
3. **Treatment Modalities**:
    - Denture care and adjustments.
    - Management of xerostomia and periodontal diseases.

4. **Interprofessional Collaboration**:
    - Working with geriatric healthcare providers.
    - Addressing psychosocial aspects of aging.

Assessment:

- Case-based evaluations.
- Clinical competency assessments.
- Reflective reports on patient interactions.

Recommended Reading:

1. “Geriatric Dentistry: Aging and Oral Health” by Ettinger et al.
2. Additional resources recommended by the course instructors.

Course Title: Dental Research Project I

Course Description:

The **Dental Research Project I** provides an opportunity for students to engage in original research within the field of dentistry. It aims to develop critical thinking, research skills, and an evidence-based approach. Students will explore a specific dental topic, collect data, analyze findings, and present their work.

Learning Objectives:

By completing this course, students will:

- **Conduct** independent research related to dental practice.
- **Apply** research methodologies and data analysis techniques.
- **Present** their findings effectively.

Topics Covered:

1. **Research Design and Proposal**:
    - Formulating research questions.
    - Developing a research proposal.
2. **Data Collection and Analysis**:
    - Gathering relevant data (e.g., surveys, clinical observations).
    - Statistical analysis using appropriate tools.
3. **Presentation Skills**:
    - Creating research posters or oral presentations.
    - Communicating research findings to peers and faculty.

Assessment:

- Research proposal submission.
- Data collection and analysis.
- Final research presentation.

Recommended Reading:

1. “Research Methodology in Dentistry” by Gupta and Bhaskar.
2. Additional resources recommended by the course instructors.

Course Title: Dental Clinical Practice 7

Course Description:

Dental Clinical Practice 7 is an advanced clinical course that builds upon previous dental training. It provides students with hands-on experience in various dental procedures, emphasizing patient care, evidence-based practice, and interdisciplinary collaboration. Students will refine their clinical skills and develop a deeper understanding of complex cases.

Learning Objectives:

By completing this course, students will be able to:

- **Apply** advanced clinical techniques in restorative dentistry, endodontics, and oral surgery.
- **Evaluate** treatment options for complex cases.
- **Demonstrate** effective communication with patients and colleagues.

Topics Covered:

1. **Restorative Dentistry**:
    - Techniques for restoring damaged teeth.
    - Materials and procedures for routine fillings.
2. **Endodontics**:
    - Root canal therapy for single-rooted teeth.
    - Diagnosis and management of pulp-related issues.
3. **Oral Surgery**:
    - Surgical extractions.
    - Implant placement (if applicable).
    - Management of oral pathology.

Assessment:

- Clinical competency evaluations.
- Case presentations.
- Reflective portfolio on patient management.

Recommended Reading:

1. “Contemporary Fixed Prosthodontics” by Rosenstiel et al.
2. “Endodontics: Principles and Practice” by Torabinejad et al.

Course Title: Advanced Restorative Dentistry

Course Description:

The **Advanced Restorative Dentistry** course focuses on specialized aspects of restorative dentistry. It equips students with advanced knowledge and skills related to restoring damaged teeth, improving aesthetics, and managing complex cases. Emphasis is placed on evidence-based practice, patient-centered care, and interdisciplinary collaboration.

Learning Objectives:

By completing this course, students will be able to:

- **Master** advanced techniques for restorative procedures.
- **Evaluate** treatment options for complex cases.
- **Apply** evidence-based approaches to achieve optimal outcomes.

Topics Covered:

1. **Advanced Restorations**:
    - Techniques for crowns, bridges, and veneers.
    - Aesthetic considerations and material selection.
2. **Management of Complex Cases**:
    - Full-mouth rehabilitation.
    - Occlusal adjustments and bite analysis.
3. **Interdisciplinary Collaboration**:
    - Working with other dental specialists (e.g., prosthodontists, periodontists).

Assessment:

- Clinical competency evaluations.
- Case presentations.
- Laboratory work on advanced restorations.

Recommended Reading:

1. “Contemporary Fixed Prosthodontics” by Rosenstiel et al.
2. Additional resources recommended by the course instructors.

Course Title: Contemporary Restorative and Aesthetic Dentistry

Course Description:

The **Contemporary Restorative and Aesthetic Dentistry** course focuses on advanced techniques and principles in restorative dentistry. It equips students with the knowledge and skills necessary to provide high-quality, aesthetically pleasing dental treatments. Emphasis is placed on evidence-based practice, patient-centered care, and interdisciplinary collaboration.

Learning Objectives:

By completing this course, students will be able to:

- **Master** advanced restorative techniques.
- **Evaluate** treatment options for complex cases.
- **Apply** aesthetic principles to achieve optimal outcomes.

Topics Covered:

1. **Advanced Restorations**:
    - Techniques for crowns, bridges, and veneers.
    - Aesthetic considerations and material selection.
2. **Smile Design and Aesthetics**:
    - Principles of smile analysis and design.
    - Shade selection and laboratory communication.
3. **Clinical Photography and Communication**:
    - Capturing high-quality clinical images.
    - Enhancing patient communication.

Assessment:

- Clinical competency evaluations.
- Case presentations.
- Practical demonstrations of advanced restorative procedures.

Recommended Reading:

1. “Contemporary Fixed Prosthodontics” by Rosenstiel et al.
2. Additional resources recommended by the course instructors.

Course Title: Advanced Digital Dentistry and Telemedicine

Course Description:

The **Advanced Digital Dentistry and Telemedicine** course explores cutting-edge technologies and their applications in dentistry. It focuses on digital workflows, telehealth, and virtual patient management. Students will learn how to integrate digital tools into clinical practice and enhance patient care through remote consultations.

Learning Objectives:

By completing this course, students will be able to:

- **Master** digital intraoral scanning techniques.
- **Evaluate** the role of telemedicine in dental practice.
- **Apply** virtual treatment planning and communication tools.

Topics Covered:

1. **Digital Intraoral Scanning**:
    - Hands-on training with intraoral scanners.
    - Digital impressions for restorative procedures.
2. **Telemedicine in Dentistry**:
    - Understanding telehealth platforms.

    - Remote consultations and follow-ups.
3. **Virtual Treatment Planning**:
    - 3D imaging and software for case analysis.
    - Collaborating with specialists virtually.

Assessment:

- Practical demonstrations of digital scanning.
- Case studies involving telemedicine applications.
- Virtual treatment planning exercises.

Recommended Reading:

1. “Digital Dentistry: An Overview” by Patel and Chavan.

Course Title: Professional Practice and Ethics

Course Description:

The **Professional Practice and Ethics** course provides essential knowledge and skills related to dental practice beyond clinical procedures. It focuses on ethical considerations, legal aspects, and professional behavior in dentistry. Students learn about patient confidentiality, informed consent, and the importance of effective communication.

Learning Objectives:

By completing this course, students will be able to:

- **Understand** the ethical principles governing dental practice.
- **Apply** legal requirements related to consent, record-keeping, and health and safety.
- **Demonstrate** professionalism, effective communication, and teamwork.

Topics Covered:

1. **Ethics in Dentistry**:
    - Patient autonomy and informed consent.
    - Confidentiality and professional boundaries.
2. **Legal Considerations**:
    - Health and safety legislation affecting dentistry.
    - Medico-legal aspects of practice.
3. **Professionalism and Communication**:
    - Effective patient communication.
    - Teamwork and collaboration.

Assessment:

- Written assessments on ethics and legal knowledge.
- Case studies involving professional behavior.
- Reflective reports on communication skills.

Recommended Reading:

1. “Ethics, Law, and Professional Issues: A Practice-Based Approach for Health Professionals” by Wheeler and Shaw.

Course Title: Dental Research Project II

Course Description:

The **Dental Research Project II** provides an opportunity for students to engage in original research within the field of dentistry. Building upon the foundational research skills developed in the first research project, this course allows students to delve deeper into a specific dental topic. Students will collect data, analyze findings, and present their research in a scholarly manner.

Learning Objectives:

By completing this course, students will be able to:

- **Conduct** independent research related to dental practice.
- **Apply** advanced research methodologies and data analysis techniques.
- **Present** their findings effectively through written reports or oral presentations.

Topics Covered:

1. **Research Design and Implementation**:
    - Refining research questions.
    - Ethical considerations and study design.
2. **Data Collection and Analysis**:
    - Gathering and managing research data.
    - Statistical analysis using appropriate tools.
3. **Research Presentation**:
    - Preparing and delivering a research presentation.
    - Communicating findings to peers and faculty.

Assessment:

- Research proposal submission.
- Data collection and analysis.
- Final research presentation or written report.

Recommended Reading:

1. “Research Methodology in Dentistry” by Gupta and Bhaskar.

CAPITAL OPERATIONAL BUDGET FOR BACHELOR OF DENTAL SURGERY

The programme budget is shown in the table below:

Capital Operational Budget for the Bachelor of Dental Surgery (BDS) **This budget projection calculation is based on forty students per year, covering two semesters, at a cost of R52,000 per student.**					
Description	**2023**	**2024**	**2025**	**2026**	**TOTAL**
Equity Financing	7554354	-	-	-	7554354
Bachelor of Dental Surgery (BDS)	2008890	12953250	14407650	19861650	49231440
Other	152712	192708	254520	363600	963 540
TOTAL	**9715956**	**13145958**	**14662170**	**20225250**	**57749334**
Expenditure					
Administrative Costs	690190	1090800	1090800	1090800	3962589
Salaries and Wages	767876	236340	236340	236340	1476896
Equipment Costs	1524073	363600	363600	363600	2614873
Operating Costs	1088626	501768	501768	501768	2593930
Research, Training & Workshops	435451	73811	73811	73811	656883
Construction and Infrastructure	2177248	545400	545400	545400	3813448
Marketing and Studio Recording	217728	36724	-	36724	291175
Travelling and Accommodation	653175	491587	491587	491587	2127936
Vehicles	-	653171	-	363600	1016771
Other Expenses	653175	93700	93700	93700	934 274
TOTAL	**8207539**	**4086900**	**3397006**	**3797329**	**19488775**
Repayment					
Equity and Dividend Payments	1888590	1888590	1888590	1888590	7554358
Interest - 18%	339948	339948	339948	339948	1359792
Charges and Accounting	66859	66859	66859	66859	267435
TOTAL	**2295396**	**2295396**	**2295396**	**2295396**	**9181584**
Total Income	9715956	13145958	14662170	20225250	57749334
Total Expenditure	10502935	6382296	5692402	6092725	28670358
B/Forward	**-786979**	**6763662**	**8969768**	**14132525**	**29078976**
B/ Down	**-786979**	**6763662**	**8969768**	**14132525**	**29078976**

Join Our Celestial Journey Illuminating Minds, Igniting Innovation. Be Part of the Spark as we Unlock the Universe's Secrets, One Equation at a Time

Office of Institutional Planning and Effectiveness
The Knowledge Park I, Examination Council of Eswatini
P.O. Box D61, Ezulwini
Eswatini

www.springfieldresearch.university
frontdesk@springfieldresearch.university

+268 7619-2898
+268 2417-1634

Research Beyond Boundaries

SPRINGFIELD RESEARCH UNIVERSITY