

**The University of Jordan**  
**Faculty of Dentistry**  
**Department of Paediatric Dentistry, Othodontics and Preventive Dentistry**

**Course Title:** Preventive Dentistry Theory 1

**Course Code:** 1303483

**Prerequisite:** None

**Course Coordinator:** Dr. Hawazen Sonbol

**Year:** 4<sup>th</sup> year, second semester

**Credit:** 1 credit hour

**Prerequisite for:** Preventive Dentistry 2

**Instructor:**

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**Course Objectives:**

By the end of the course students will have attained the following:

1. Understanding of classification of preventive dentistry according to the level of prevention into primary prevention, secondary prevention, tertiary prevention.
2. Understanding of the aetiology of caries development and basic mechanism for prevention
3. Evidence based analysis of the preventive techniques available

**Learning Outcomes:**

Successful completion of this module should lead to the following learning outcomes:

**A. Knowledge and Understanding (student should)**

A1) Understanding of classification of preventive dentistry according to the level of prevention into primary prevention, secondary prevention, tertiary prevention.

A2) Understanding the etiology of dental caries including early theories, chemical theory, parasitic theory, miller's chemico-parasitic theory, proteolytic theory, proteolysis-chelation theory and current concept of primary and secondary factors.

A3) Understanding the microbiology of dental caries including knowledge about streptococcus mutans, lactobacillus, filamentous bacteria, gram negative cocci and streptococci other than mutans.

A4) Understanding the relationship between diet, nutrition and dental caries including cariogenic food, consumption of sugars, cariogenicity of different sugars and cleansing and protective food.

A5) Understanding the methods of prevention of dental caries using plaque control.

A6) Understanding the methods of prevention of dental caries using diet control and sugars substitutes.

A7) Understanding the methods of prevention dental caries using fluoride using fluoridation of drinking water, dietary fluoride supplements, professionally and self applied fluoride, fluoride mouthrinse, fluoridated toothpastes, and other forms of fluoride.

A8) Understanding the methods of prevention of dental caries using oral health promotion

#### **B. Intellectual skills - with ability to**

B1) Incorporate preventive methods of dental caries using plaque control, diet control and fluoride into treatment planning.

B2) Employ the risk managements methods to identify patients at high risk of caries.

#### **C. Subject specific skills – with ability to**

C1) Employ different methods of preventive including different fluoride formulations

C2) Give examples of oral health promotion

#### **D. Transferable skills – with ability to**

D1) Strike the balance between self-reliance and seeking help when necessary.

D2) Display an integrated approach to the deployment of communication skills.

#### **Teaching methods:**

- Duration: 16 weeks, 16 hours in total.
- Lectures: 14 hours, 1 per week + two weeks for exams.

#### **Modes of assessment:**

- Midterm exam: 40 points, MCQs.
- Final Exam: 60 points, MCQs.

#### **Attendance policy:**

Lecture attendance is obligatory. The handout and recommended textbook are not comprehensive and additional material will be covered in lectures. You are responsible for all material covered in lectures.

#### **Expected workload:**

On average you should expect to spend between 3 and 5 hours per week on this course.

#### **Course Content & Weight:**

No. lectures	Lecture title	Material covered
1	Introduction to preventive dentistry	Introduction to the course, preview of the course. Classification according to the level of prevention, Primary prevention, Secondary prevention, Tertiary prevention.
2	Aetiology of dental caries	Early theories. Exogenous theories (chemical (acid) theory, parasitic (septic) theory, miller's chemicoparasitic theory, proteolytic theory, proteolysis-chelation theory), other theories of caries etiology, current concept (primary (essential) factors, secondary factors
3	Diet and nutrition and dental caries	The value of teeth in nutrition. Components of food. Role of sugars, intrinsic and extrinsic sugars. Milk and caries and the evidence Cariogenicity of different sugars,
4	Prevention of dental caries – Diet control and sugar substitutes	Recent recommendations Nonsugar sweeteners, intense sweeteners, sugarless chewing gum
5	Prevention of dental caries using plaque control	Definition and composition, inorganic component of plaque, clinical features, dental plaque formation (previous view, present view), colonization of salivary pellicle, mechanism of bacterial adherence, metabolism of dental plaque, glycolysis, concept of critical ph
6	Prevention by Fluoride 1 Mechanism of Action	How fluoride acts to prevent caries Pre and posteruptive effects
7	Prevention by fluoride – 2 Mouthrinses and toothpaste	Fluoride mouthrinse, fluoride toothpastes (quality of the fluoride toothpaste trials, fluoride concentrations in toothpastes, standards for toothpaste efficacy, global impact of fluoride toothpastes).
8	Prevention by fluoride - 3 Fluoridation of drinking water.	Fluoridation of drinking water, optimal F concentrations in drinking water, drinking water standards, caries reductions from fluoridation (caries reductions in children, caries reductions in adults), partial exposure to fluoridation, economics of fluoridation, savings in treatment costs, effects on dental practice, the politics of fluoridation.
9	Prevention by fluoride 4 Dietary fluoride supplements.	Dietary fluoride supplements,(caries prevention by fluoride supplements, dosage schedules, fluorosis risk from fluoride supplements, how should fluoride supplements be used?, prenatal fluoride supplementation).
10	Prevention by fluoride 5 Professionally and self applied fluoride	Professionally-applied fluoride gels, fluoride varnishes, self-applied fluorides,
11	Fluoride toxicity and fluorosis	Clinical signs of acute fluoride toxicity and management Fluorosis clinical signs
12	Clinic aspects	Clinical aspects of caries prevention Different methods of caries diagnosis – ECM, Diagnodent, Enhanced Visual examination

**Feedback:**

Concerns or complaints should be expressed in the first instance to the course instructor. If no resolution is forthcoming then the issue should be brought to the attention of the Department Chair and if still unresolved to the Dean. Questions about the material covered in the lectures, notes on the content of the course, its teaching and assessment methods can be also sent by e-mail.

**References and Supporting Material:**

1. *Strongly recommended:*

**Prevention of Oral Disease.** Murray (2003) Oxford University Press

2. *Also recommended:*

**Nutrition, Diet and Oral Health Rugg-Gunn, A.J., Nunn, J.H.** (1999) Oxford University Press