
UNIVERSITY OF ZAGREB

SCHOOL OF DENTAL MEDICINE

# LIST OF ACTIVITIES FOR THE COURSE PROJECT

## ACADEMIC YEAR 2023/2024

Course coordinator

Associate Professor Danijela Marović

May 2023

Dear students

The elective course Project was launched to promote scientific and professional student activities at the School of Dental Medicine, University of Zagreb, under the mentorship of teachers. The students of all years of study (from 1st to 6th year) can be enrolled in the course.

The course aims to connect students interested in additional scientific / professional activities with teachers willing to include students in them to raise student scientific, professional, and organizational skills and competencies.

Students who choose this course and the teacher for their activities receive 1 ECTS credit. One student in one academic year can receive a maximum of 1 ECTS credit for this activity in this course. By signing the index, the teacher confirms that the student has duly performed the planned obligations. There are no grades from the subject Project, so it does not enter the grade point average.

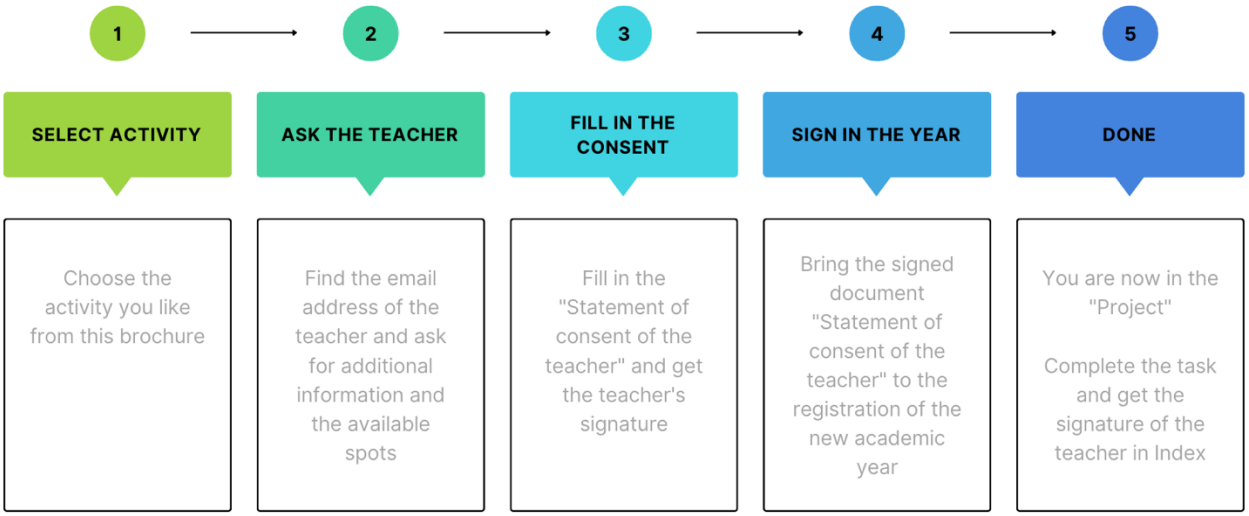
The list of available scientific / professional student activities within the course Project in the academic year 2023/2024 is available on the following pages. For any additional information, feel free to contact teachers by email.

Sincerely,

Danijela Marović

Course coordinator of Project

# timeline for students



**LIST OF ACTIVITIES**

| | |
|---|---|
| **Name and surname (email)** | Professor Vlaho Brailo (brailo@sfzg.hr) |
| **Department** | Department of Oral Medicine |
| **Name of activity** | Dental treatment prior to cardiosurgical procedure – a retrospective study |
| **Type of activity** | scientific activity |

**Number of required students for the implementation of activities:** 4

**Year of study in which the student must be enrolled to participate:** 5, 6.

**Prerequisites that the student should meet**

No special prerequisites.

**Brief description of activities**

Dental treatment prior to cardiosurgical procedure is controversial topic with a scarce evidence base. General consensus exists that patients need to undergo dental evaluation prior to procedure. However, there is no consensus on timing and extent of the evaluation as well as the procedures that need to be undertaken.

The aim of this activity is to analyze the data on dental work-up in patients undergoing cardiosurgical procedure. Under the mentorship of prof. Brailo students will design the form for data extraction, extract the data from hospital system, enter the data in the form, analyze the data and write a scientific paper. Apart from that, students will take part in clinical activities, planning and providing dental care for patients undergoing cardiosurgical procedures in Dental clinic Rebro.

**Student duties**

To search the literature and find similar studies on the topic

To design a form for data entry (based on the studies from the literature)

To enter a minimum of 20 patients from hospital system in the form

To write the paper after the data analysis

To manage min 3 patients undergoing cardiosurgical procedure in dental clinic Rebro

**Duration** 30 hours

**Indicative date of start and end of the activities** 01.09.2023 - 29.02.2024

**Benefits for the student**

By participating in this activity students will

1. Get theoretical and practical knowledge in the management of medically complex patients

2. Take part in designing a scientific study

3. Learn to define variables of interest in scientific paper

4. Get theoretical and practical knowledge on writing a scientific paper

| | |
|---|---|
| **Name and surname (email)** | Professor Vlaho Brailo (brailo@sfzg.hr) |
| **Department** | Department of Oral Medicine |
| **Name of activity** | Dental treatment prior to haematological stem cell transplantation – a retrospective study |
| **Type of activity** | scientific activity |

**Number of required students for the implementation of activities:** 4

**Year of study in which the student must be enrolled to participate:** 5, 6.

**Prerequisites that the student should meet**

No special prerequisites.

**Brief description of activities**

Dental treatment prior to haematological stem cell transplantation (HSCT) is done to reduce microbial load in the oral cavity and prevent infection in the early posttransplant period when patients are pancytopenic. Apart from that, dental treatment can reduce the intensity of acute HSCT complications as well as prevent some chronic HSCT complications.

The aim of this activity is to analyze the data on dental work-up in patients undergoing HSCT. Under the mentorship of prof. Brailo students will design the form for data extraction, extract the data from hospital system, enter the data in the form, analyze the data and write a scientific paper. Apart from that, students will take part in clinical activities, planning and providing dental care for patients undergoing HSCT in Dental clinic Rebro.

**Student duties**

To search the literature and find similar studies on the topic

To design a form for data entry (based on the studies from the literature)

To enter a minimum of 20 patients from hospital system in the form

To write the paper after the data analysis

To manage min 3 patients undergoing HSCT in dental clinic Rebro

**Duration** 30 hours

**Indicative date of start and end of the activities** 01.09.2023 - 29.02.2024

**Benefits for the student**

By participating in this activity students will

1. Get theoretical and practical knowledge in the management of medically complex patients

2. Take part in designing a scientific study

3. Learn to define variables of interest in scientific paper

4. Get theoretical and practical knowledge on writing a scientific paper

**Name and surname (email)** Prof. Robert Ćelić (celic@sfzg.hr)

**Department** Department of Removable Prosthodontics

**Title of the activity** Professional activity, optionally scientific

**Type of activity** scientific and professional activity

**Number of required students for the implementation of activities** 10

**Year of study in which the student must be enrolled to participate:** 5, 6

**Prerequisites that the student should meet**

Passed exam in the Occlusion

**Brief description of activities**

Traditional occlusal indicators or "markers" used daily in occlusal analysis are articulating papers (in various thicknesses), shimstock sheets, elastic impression materials and occlusal wax strips. These static materials have a wide range of physical properties (viscosity, elasticity, volumetric contraction, distortion and crumpling) that contribute to inaccuracies in their clinical use. They only indicate the location of occlusal contact but are not able to quantify the functional occlusal force and duration of occlusal contact.

Recently, digital devices such as T-scan devices have emerged that can record variants of occlusal contact force in real time, providing additional and extremely important information in occlusal analysis.

The T-Scan device records and visually displays static (in the position of maximum intercuspidation) and dynamic (during mandibular protrusion and laterotrusion movements) occlusal contacts on dental arches (and all types of prosthetic work). It records the relative force of each tooth contact, the distribution of forces in relation to the maximum force transmitted to the entire dental arch as well as to individual teeth.

**Student duties**

Be present at the time of the agreed activity dates

**Duration** 20 hours

**Indicative date of start and end of the activities** 02.10.2023 - 12.07.2024

**Benefits for the student**

Better knowledge and understanding of occlusion/occlusion analysis in the field of fabrication of various types of prosthetic restoration and more broadly in the fields of dentistry (orthodontics, TMJ disorders) where occlusion is unavoidable.

| | |
|---|---|
| **Name and surname (email)** | Assoc. Prof. Danijela Marović (marovic@sfzg.hr) |
| **Department** | Department of Endodontics and Restorative Dentistry |
| **Title of the activity** | Effect of polymerization light wavelengths on polymerization kinetics of contemporary composite materials |
| **Type of activity** | scientific activity |

**Number of required students for the implementation of activities** 4

**Year of study in which the student must be enrolled to participate:** 3, 4, 5, 6.

**Prerequisites that the student should meet**

No special prerequisites, but the advantage will have students who have passed an exam Introduction to scientific work

**Brief description of activities**

In this study, the influence of the light spectrum and irradiance of the polymerization light of different curing units on the polymerization rate, the time to reach maximum polymerization rate, kinetic parameters and the final degree of conversion of new generations of bulk-fill composite materials will be examined.

**Student duties**

Students are required to prepare the samples, conduct testing, interpret the obtained results and write a scientific paper.

**Duration** 90 hours

**Indicative start and end date of activities** 01.09.2023 – 01.12.2023.

**Benefits for the student**

Students interested in scientific work will gain experience in scientific work in dentistry and the satisfaction of implementing evidence-based facts in clinical dental practice. The proposed research can be used for a graduate thesis or the publication of a scientific paper.

**Name and surname (email)** Assoc. Prof. Danijela Marović (marovic@sfzg.hr)

**Department** Department of Endodontics and Restorative Dentistry

**Activity title** Influence of ambient light on the working time of bulk-fill composite materials

**Type of activity** scientific activity

**Number of required students for the implementation of activities** 2

**Year of study in which the student must be enrolled to participate:** 3, 4, 5, 6

**Prerequisites that the student should meet**

No particular prerequisites, but the advantage will have students who have passed the exam Introduction to scientific work

**Brief description of activities**

This research will study new bulk-fill composite materials. In the first part, the influence of operating light on the working time of bulk-fill composite materials according to the ISO standard will be examined. In the second part of the research, changes in the degree of conversion in real-time before, during and after light curing will be studied on the same materials and experimental conditions.

**Student duties**

Students are required to prepare material samples, conduct testing and interpret the obtained results and write a scientific paper.

**Duration** 90 hours

**Indicative start and end date of the activity** 01.09.2023 – 01.12.2023.

**Benefits for the student**

Students interested in scientific work will gain experience in scientific work in dentistry and the satisfaction of implementing evidence-based facts in clinical dental practice. The proposed research can be used for a graduate thesis or the publication of a scientific paper.