UNIVERSITY OF ZAGREB
SCHOOL OF DENTAL MEDICINE

LIST OF ACTIVITIES FOR THE COURSE PROJECT

ACADEMIC YEAR 2026/2027

Course coordinator
Assoc. Prof. Danijela Marović

June 2026

ESF+ Učinkoviti ljudski potencijali
Sufinancira Europska unija

Dear students,

In order to promote scientific and professional student activities at the School of Dental Medicine, University of Zagreb, under the mentorship of teachers, the elective course Project has been launched. The course is open to students of all years of study (from year 1 to year 6).

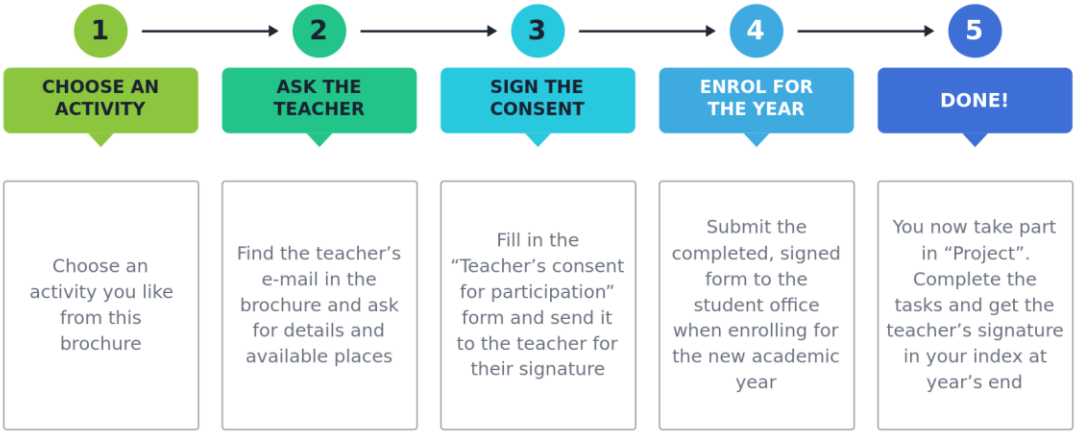
The course aims to connect students interested in additional scientific/professional activities with teachers who are willing to involve students in them, all with the goal of enhancing students' scientific, professional, and organizational skills and competencies.

Students who choose this course and a teacher for their activities receive 1 ECTS credit. In a single academic year, a student can earn a maximum of 1 ECTS credit from this course for their activities. The teacher confirms that the student has duly completed the planned obligations. The course Project is not graded and does not count towards the grade-point average.

The list of available scientific/professional student activities within the course Project for the academic year 2026/2027 is available on the following pages. For any additional information, please feel free to contact the teachers by e-mail.

Kind regards,
Danijela Marović
Coordinator of the course Project

Instructions for students



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Name and surname (e-mail)	Prof. Andreja Carek (acarek@sfzg.hr)
Department	Department of Fixed Prosthodontics
Activity title	Innovations and modern approaches in dental medicine: advanced materials, digital technologies and artificial intelligence in esthetic, prosthetic and implant therapy – from research to clinical application
Type of activity	scientific activity, professional activity

Number of students required for the activity: 3

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

Prerequisites the student must meet

Knowledge of English

Short description of the activity

In general, students are expected to:

- Actively participate in project activities (research, professional, or organizational)
- Demonstrate independence and responsibility in their work, while meeting deadlines
- Collaborate with the mentor and team, developing communication skills
- Understand and apply basic scientific and professional working methods
- Participate in the planning and implementation of activities (e.g., data collection, results analysis)
- Present the results of their work (orally and/or in written form)
- Develop critical thinking and a professional approach to work
- The emphasis is on gaining practical experience, encouraging student initiative, and linking theoretical knowledge with real activities in an academic and professional environment.

Student duties

Student responsibilities include regular and active participation in project activities, responsible completion of assigned tasks in accordance with deadlines, collaboration with the mentor and team members, and timely reporting on progress. Students are also expected to demonstrate a professional approach, initiative in their work, and the ability to present achieved results.

Duration 60 hours

Approximate start and end date of the activity 25.05.2026. – 31.12.2026.

Benefits for the student

By participating in the project, students gain practical experience, develop scientific and professional skills, and improve their organizational and communication competencies. It also encourages independence, critical thinking, and teamwork, while providing opportunities to connect theoretical knowledge with practice and to build contacts within the academic and professional environment.

Name and surname (e-mail)	Assoc. Prof. Davor Illeš (dilles@sfzg.hr)
Department	Department of Removable Prosthodontics
Activity title	Development of an artificial-intelligence model for occlusion analysis and adjustment
Type of activity	scientific activity

Number of students required for the activity: 1

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

Prerequisites the student must meet

Good command of information technology

Short description of the activity

This project aims to develop an artificial intelligence model for advanced three-dimensional analysis and optimization of intermaxillary relationships. The system integrates data from occlusal contacts marked with articulation foil during both light and firm biting, which are then digitalized using a 3D scanner. The main objective is to overcome the limitations of static registration by introducing AI algorithms capable of recognizing biomechanical changes under different loads. The expected clinical outcome is the successful compensation (annulation) of the teeth's intrusion capacity and the precise registration of a more "natural" bite. By automating this process and predicting tooth micromobility within the periodontal ligament, the model enables the fabrication of perfectly balanced prosthetic restorations and splints. This drastically reduces the need for subsequent intraoral adjustments and chairside selective grinding in daily clinical practice.

Student duties

Clinical Occlusion Registration: Performing protocols for marking occlusal contacts using articulation foil on patients, accurately recording the differences between light and firm bites.

3D Optical Digitalization: Utilizing intraoral 3D scanners to digitalize the patient's dentition and precisely capture the marked occlusal contacts.

Participation in AI Model Development: Actively contributing to the preparation, segmentation, and annotation of the collected 3D scans and occlusal data, directly supporting the training and validation dataset for the AI algorithm.

Duration	30 hours

Approximate start and end date of the activity 01.09.2026. – 25.01.2027.

Benefits for the student

Mastery of Digital Workflows: Gaining advanced, hands-on skills with intraoral 3D scanners and dental CAD software through direct clinical work with patients.

Introduction to AI Technologies: A unique opportunity to participate in developing artificial intelligence for dentistry—the most rapidly growing field of research (an ideal foundation for a student thesis, awards, or a future PhD).

Deeper Understanding of Gnathology: Through practical analysis of tooth intrusion capacity and bite biomechanics, the student grasps complex gnathological concepts at a much higher level than the standard curriculum.

Scientific and Research Experience: Participation in a clinical project, data collection, and teamwork, opening doors to co-authorship on scientific papers and presentations at dental congresses.

Name and surname (e-mail)	Prof. Liborija Lugović Mihić (liborija@gmail.com)
Department	Department of Dermatovenereology
Activity title	Determination of salivary cortisol in dermatoses
Type of activity	scientific activity

Number of students required for the activity: 2

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

Prerequisites the student must meet

No special prerequisites; willingness to write an article is required

Short description of the activity

Collecting current scientific knowledge from the literature and published articles on the results of salivary cortisol determination in dermatoses, with the aim of writing an article

Student duties

To collect previous scientific knowledge from the literature and published articles on the determination of salivary cortisol in dermatoses and write the text with the help of the leader of this project.

Duration	20–30 hours

Approximate start and end date of the activity 01.10.2026. – 30.09.2027.

Benefits for the student

Gaining experience in scientific work and writing articles

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

Department Department of Endodontics and Restorative Dentistry

Title of the activity Effect of filler content on the cross-linking of the polymer network and temperature rise of composite materials

Type of activity scientific activity

Number of required students for the implementation of activities 1

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

Prerequisites that the student should meet

Interest in scientific work, diligence, meticulous work, attention to details.

Brief description of activities

In this research, five composite materials will be made with incrementally increasing amounts of inert fillers and the influence of filler content on their cross-linking density of the polymer network and temperature rise during exposure to high irradiance curing unit will be examined.

Student duties

Students are required to prepare material samples, conduct testing, analyze the results, and write a scientific abstract for the conference.

Duration 100 hours

Indicative start and end date of activities 01.10.2026 – 30.09.2027.

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.unizg.hr)

Department Department of Endodontics and Restorative Dentistry

Title of the activity The influence of post-polymerization cleaning on 3D printed composite materials

Type of activity scientific activity

Number of required students for the implementation of activities 1

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

Prerequisites that the student should meet

Interest in scientific work, diligence, meticulous work, attention to details.

Brief description of activities

This research will study the influence of different solvents and exposure times of 3D printed composite materials on changes in the degree of conversion, monomer release, embryotoxicity, and their mechanical properties.

Student duties

Students are required to prepare material samples, conduct testing and measurement of bending properties, process the results and write a scientific abstract for the conference.

Duration 100 hours

Indicative start and end date of activities 01.10.2026 – 30.09.2027.

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 (e-mail)	Assist. Prof. Larisa Musić (lmusic@sfzg.hr)
Department	Department of Periodontology
Activity title	Use of Sterify Gel as an adjunct to non-surgical periodontitis therapy
Type of activity	scientific activity

Number of students required for the activity: 1

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

Prerequisites the student must meet

No special prerequisites

Short description of the activity

Sterify Gel is an innovative clinical product used as a local adjunct to non-surgical treatment of periodontitis. There is an ongoing randomized clinical trial of this adjuct in a population of patients with stage III periodontitis. The study compares the outcomes of the gold standard of periodontitis treatment - subgingival mechanical instrumentation (non-surgical/initial therapy) - with or without the additional use of Sterify Gel. The product itself works according to the principle of mechanical retention of a blood clot in instrumented pockets.

Student duties

Help with collecting and entering and maintaining clinical data, help with clinical work (photographing, preparation of placebo preparations), help in writing the scientific paper

Duration	40 hours

Approximate start and end date of the activity 06.09.2026. – 30.01.2027.

Benefits for the student

Gaining experience and participating in the implementation of a randomized clinical trial. Getting to know the principles of designing and conducting research. Learning how to properly maintain scientific documentation. Participating in writing and publishing an original scientific article.

Name and surname (e-mail)	Assoc. Prof. Ivana Šutej (isutej@sfzg.hr)
Department	Department of Pharmacology
Activity title	World antibiotic resistance awareness week and European antibiotic resistance awareness day – Dental perspective
Type of activity	professional activity

Number of students required for the activity: 10

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

Prerequisites the student must meet

Microbiology

Short description of the activity

In order to raise awareness among the public about the necessity of the rational use of antibiotics, November 18th has been declared European Antibiotic Awareness Day (EAAD). On the date designated for EAAD in Croatia, students would organize a lecture on the rational use of antibiotics in dentistry, with an emphasis on preventing antibiotic resistance. After the lecture, a roundtable discussion (with a microbiologist, dentist, and pharmacologist) would be held to address the challenges of antibiotic use in dental practice. Workshops would also be organized on infection prevention in dentistry, with the message on how to correctly use antibiotics only when necessary. In addition to the educational activities, students would create posters, leaflets, and social media posts with information about the importance of responsible antibiotic use, both in dentistry and in general medical practice.

Student duties

Students would have several key responsibilities in organizing and implementing this event for European Antibiotic Awareness Day (EAAD) and World antibiotic resistance awareness week (WAAW): Organization of the Lecture: Preparation of the lecture content on the rational use of antibiotics in dentistry, contacting and coordinating with the speakers (microbiologist, dentist, pharmacologist) who will participate in the roundtable discussion.

Organization of the Roundtable: Planning and organizing the roundtable with relevant experts (microbiologist, dentist, pharmacologist), developing questions and topics for discussion. Coordinating with panelists and moderating the discussion during the event.
Organization of Workshops: Preparing materials for the workshop on infection prevention in dentistry, planning practical exercises and demonstrations for students and participants, engaging professors or experts who will lead the workshop.

Creation of Educational Materials: Designing and creating posters, leaflets, and other promotional materials for distribution. Writing and posting information on responsible antibiotic use on the faculty's social media platforms. Organizing the placement of posters and distribution of leaflets on the faculty and other relevant locations.
Social Media Coordination: Creating content for social media (Facebook, Instagram, Twitter) related to

the event. Promoting activities and events through online channels. Monitoring engagement and responding to questions or comments on social media.

Duration 60 hours

Approximate start and end date of the activity 1.10.2026. – 31.12.2026.

Benefits for the student: Through collaboration with experts in this field and studying topics related to antibiotics, students expand their knowledge of dentistry and microbiology. Active participation in raising awareness about the importance of rational antibiotic use allows students to contribute to an important social issue.

The activities of the Project course are carried out as part of the SPOJ project through teamwork under the mentorship of teaching staff, aiming to develop practical knowledge, skills and innovative solutions to challenges in the field of dental medicine.