

- 3- The IREC3 (MB653) takes place during DMD year 3. Students who completed IREC1 and/or IREC2 training or those with prior research experience can apply.
 - a. The expected number of hours is 100 contact hours minimum in the laboratory or in the clinical setting. The activities outlined below need to be accomplished outside the contact hours.
 - b. Students need to successfully complete the mentored project and report the results at Science Day and/or at other scientific events. The project could be an ongoing product throughout the IREC training.
 - c. IREC3 trainees will be graded by the end of DMD year 3.

Applications Deadline: February 1 for IREC1 and ongoing for IREC2 and IREC3.

Drop-outs within the first four weeks of the start of training will get “**W**”.

The Assistant Director of Pre-doctoral Research is responsible for monitoring progress of the students, tracking time sheets and communicating with the Office of Academic Affairs and the Office of the Registrar.

Course Objectives

- To carry out well-defined research projects under the guidance of research mentors
- To enhance critical thinking skills
- To participate in the full range of research-related activities, including scientific meetings and journal clubs. Scientific meetings will provide platforms for discussions of research findings, for troubleshooting research strategies and methodologies and for critiquing results and their interpretation
- To train in the design and execution of scientific studies, gain better understanding of innovative dental techniques, materials and tools, develop analytical thinking abilities, contribute to the dental literature by publishing results, showcase accomplishments at local, national and international scientific meetings, become more informed dental clinicians and improve eligibility for academic appointments
- To contribute to the discovery of new knowledge

Activities

Project Development

IREC trainees work together with their mentors on the preparation of research proposals through literature reviews, analyses of preliminary data and pilot studies. Project description includes concept definition, formulation of specific hypotheses, aims and timelines, as well as expected outcomes. Mentors assigned to train IREC students assume the responsibility for supporting the students through the selection, design and execution of a project. Once the project is completed, students are expected to present at local, national or international meetings.

Seminar Series

The PRP office organizes a seminar series through which IREC trainees learn about different scientific methodologies and approaches. These seminars enrich the trainees' research experience by exposing them to the latest scientific findings and facilitate development of personal relationships among peers.

Journal Club

Each trainee is required to attend at least one journal club directed at developing skills in the critical evaluation of literature by critiquing a research paper.

Scientific Writing, Presentation and Communication Skills

The PRP office assists the IREC trainees in the presentation of the research accomplishments at scientific meetings. An emphasis is made on improving writing, presentation and communication skills. Scientific Writing seminars and Communication Science workshops are provided.

Scientific Events

The PRP office supports the IREC trainees to present their research projects at the IADR/AADR meetings, the Hinman Research Symposium, the Yankee Dental Congress and the annual GSDM Science Day.

Instructions in the Responsible Conduct of Research (RCR)

Prior to Apex training, The PRP office informs the trainees of their responsibilities that include sessions on the CITI Trainings in the Protection of Human Subjects in Research, HIPAA, Good Clinical Practice and Responsible Conduct of Research. The activities include five online modules: Introduction to RCR, Data Management, Mentoring, Plagiarism, and Reproducibility.

Training and Assessment

The research mentor is expected to provide guidance and supervision to the trainee. The mentor formally meets with the IREC trainee on a regular basis to review progress. In addition, the mentor is expected to interact informally with the IREC trainee on a regular basis during the elective course in years two and three. The IREC trainee's progress is determined by an evaluation questionnaire completed by the research mentor to provide an assessment of the trainee's degree of research progress and knowledge of the specific subject area. In addition, the IREC trainee's research experience is evaluated in relation to subsequent research activities and his/her future career plans. A final grade is issued and an assessment summary provides the trainee with a comprehensive overview of his/her performance.

Program Evaluation

Assessment of the educational outcome is used by measuring the initial baseline through a pre-program questionnaire. A post-program questionnaire is used to quantify changes in knowledge, skills and career choices. A feedback gathered through evaluation is documented and used to improve the quality of the Program. The evaluation helps in the adjustment of goals and objectives of the research training to improve the Program outcome.

Intensive Research Elective Course (IREC) Evaluation Criteria:

Research science aptitudes, report writing, research skills, interpersonal/communication skills	50%	mentor
Other assignments	30%	mentor
Presentations	10%	PRP office
Journal Club & Meeting attendance	10%	PRP office

GSDM Intensive Research Elective Course (IREC)

Name of Student:

BUID:

Mentor:

IREC 1

IREC 2

IREC 3

Student Responsibilities (Syllabus)

Activity	Date/ Title of Activity	Date/ Title of Activity	Material Delivered to PRP
Approval Form			Electronic Submission
Project Outline			Hand in
CITI Course Protection of Human Subjects in Research			Copy of Certificate via email
CITI Course on HIPAA			Copy of Certificate via email
Laboratory Safety Training			Proof of activity
Animal Safety Training			Proof of activity
Responsible Conduct of Research Seminars			Online CITI training http://www.bu.edu/researchsupport/compliance/responsible-conduct-of-research/training-programs/rcr-for-masters-degree-candidates/
Seminars			Debriefing of at least one seminar relevant to research project
Mini-Courses			If applicable
Journal Club			Article critique write up organized by SRG
Mid-term Meeting			Schedule a meeting with PRP office mid-way
Completed Report/ Final Grade			Copy of graded report by mentor
Presentation/ Oral or Poster			Name of event – copy of poster or ppt
Mentor's Evaluation			Sent by mentor
Student's Feedback			Hand in at completion of course
Time Sheet			Hand in at completion of course



Mentor Evaluation of Intensive Research Elective (IREC) Student

_____ (Student Name, Class of)

_____ (Student ID)

_____ (Dates of Research)

_____ (Mentor Name, Laboratory)

Assess the student along each of the following areas. Fill-in one response for each item.

Use this scale: 5 = Outstanding 4 = Good 3 = Fair 2 = Marginal 1 = Poor

N.B. For Item # 8, writing of final report, the maximum number is 15

Research Scientist Aptitudes

1. Enthusiasm _____
2. Familiarity with scientific literature _____
3. Formulation of specific problems and strategies to investigate _____
4. Design of new experimental approaches _____
5. Interpretation of data _____
6. Succinct presentation of results _____
7. Preparation of abstracts for scientific presentation _____
8. Writing of final report _____
9. Responsiveness to critical evaluation _____

Research Skills

10. Planning of experiments _____
11. Technical performance skills _____
12. Adherence to schedule _____
13. Precision and accuracy _____
14. Respect of laboratory rules and regulations _____

Interpersonal/Communication Skills

15. Communication with advisor _____
16. Participation in scientific discussions _____
17. Receptiveness to new ideas and scientific approaches _____
18. Cooperation with others _____

Comments and Recommendations

Overall Grade: _____

