

**Biomedical Translation Boot Camp**

生物医科学研究橋渡しのためのブートキャンプ

**Subject Name:**

Biomedical Translation Boot Camp

**Course No.:** @@@**Course Type:** Lectures with optional practical training, lab experience and experiments**Credit:** 3**Outline:**

In this course, students plan and implement biomedical and translation research lab related to unmet needs of food security and global health and identify social and natural environment-related issues/challenges in R & D. aiming to provide basics and trainings for building and boosting skill sets of students for a community of solutions for the unmet needs. This boot camp aims to initiate and engage graduate students in a process to translate evidence-based medical care and food security into locally relevant and globally appropriate approaches and technologies, especially on the aspects of biochemistry and molecular biology. Students shall implement their own identified unmet needs and work optionally in the relevant labs while regularly holding discussions with course faculty members. After completion of combined course time, lectures and training with optional laboratory work, students must submit the report of research progress which will be evaluated by the course coordinators and respective instructors who host the students. The Bootcamp will conclude with a "Student Biomedical and Translational Research Symposium" open to all faculty, researchers and students. During preparation, MCB students will be provided with optional personal tutors/instructors.

**Grade, Time Table and Credit:**

<u>Subject</u>	<u>Year</u>	<u>Semester</u>	<u>Day/Period</u>	<u>Credit</u>
Biomedical Translation Boot Camp	1	Spring	Intensive	3

**Location:**

National Taiwan University (NTU)

**Instructor Information**

Coordinators: Prof. Tsai-Kun Li and Han-Yi Chou

Students need to study the subject under at least one instructor.

Prof. Tsai-Kun Li, Prof. Han-Yi E. Chou, Prof. Shu-Chun Teng, Prof. Chang-Chuan Chan, Prof. Hsinyu Lee, Prof. Ming-Ju Chen, Prof. Tang-Long Shen

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**Link between Course Objectives and Activities:**

To nurture the fundamentals for Agro-Biomedical Science such as ability to connect health and food resources, Abilities to connect engage in issues related health security, and ability to engage food security, through attending laboratory practices hosted by instructors.

**Academic Goal:**

1. Students with a pre-identified unmet biomedical needs are expected to be equipped with crucial biomedical approaches and translational technologies to resolve these unmet needs.
2. Students are anticipated to achieve a basic understanding in their identified areas in which they may have received formal education and research activities.
3. Students will be able to plan and implement their field practicum work related to Food and Health;
4. Students will be able to identify social and natural environment-related issues/challenges in R & D from their practicum experience;
5. Students will be able to hold discussions with faculty and related persons about their ideas for their implementation plan.

**Course Schedule:**

Students need to attend translational courses hosted by the following instructors and suggested activities (e.g. relevant symposium, lectures and seminars). Student can choose the desired instructor(s) (optional) to do practical training and experimental approaches. Students must attend and present at the final "Student Biomedical and Translational Research Symposium".

Theme 1: Drug and health food product development (Prof. Tsai-Kun Li)

Theme 2: Stem cell and nanobiotechnology (Prof. Han-Yi E. Chou)

Theme 3: Genetics and Molecular Biology (Prof. Shu-Chun Teng)

Theme 4: Environmental Epidemiology and Global Health (Prof. Chang-Chuan Chan)

Theme 5: Signal Transduction (Prof. Hsin-yu Lee)

Theme 6: Animal-based foodstuff (Prof. Ming-Ju Chen)

Theme 7: Applied microbiology (Prof. Tang-Long Shen)

**Course Prerequisites and Advisories:**

For Master's program in Agro-Biomedicine (GIP-TRIAD). For the 2<sup>nd</sup> semester. To register in this course, please first contact the coordinators in charge of the course.

**Self-Directed Learning Other Than Coursework:** Address issues introduced by instructors in the classroom and during the lectures.

**Grading Philosophy (Percentage/Criteria/Methodology):**

Class attendance (20%), presentation and discussion (20%), report and final presentation (50%) and evaluation of instructors and/or coordinators (10%).

Report and final presentation shall include summary of potential solutions of your pre-identified unmet needs and its relation with global topics in Food and Health.

Students need to attend at least 80% of classes for getting grade C.

Grading Criteria is A+(Superior), A(Excellent), B(Good), C(Average) and D (Failure).

**Textbooks, References and Supplementary Materials:**

Distributed by Instructors in class and online website (e.g. CEIBA)

**Office Hours:**

Name: Prof. Tsai-Kun Li

E-mail: tsaikunli@ntu.edu.tw

Name: Prof. Han-Yi E. Chou

E-mail: hyechou@ntu.edu.tw

Name: Prof. Shu-Chun Teng

E-mail: shuchunteng@ntu.edu.tw

Name: Prof. Chang-Chuan Chan

E-mail: ccchan8082@gmail.com

Name: Prof. Hsinyu Lee

E-mail: hsinyu@ntu.edu.tw

Name: Prof. Ming-Ju Chen

E-mail: cmj@ntu.edu.tw

Name: Prof. Tang-Long Shen

E-mail: shentl@ntu.edu.tw

By Appointment Only

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**Other (i.e. Expectations on Classroom, Conduct and Decorum etc.):** In the seminar, students are expected to join in the discussion.

**Related Courses:** Research and Development for Agro-Biomedical Science II (NTU), Fusion of Field and Laboratory Studies (NTU), Agro-Biomedical Science Laboratory Seminar I (UT), International Scientific Seminars (UB), Field to Laboratory Practices with Data Management & Data Mining (UB), Integrative Unit with Omic & Bioinformatic Tools (UB)

**Keywords:** Paper presentation, unmet biomedical needs, translational science

**Remarks:** A suggested pre-requisite for the students is the identification of unmet biomedical needs. Depending on their preparation, pre-requisitions and discussion with course coordinators, incoming students will be given “boot camp” courses and potential instructors.