科目名 **Course Title** 細胞学1(Cell Biology I) 学科・専攻 受講年次 Department/Program Grade G30 Biology 2nd 授業形態 **Class style** 必修・選択の別 **Compulsory or Elective** \* See "Remarks" 講義 時間割コード **Registration code** 開講期・曜日・時限 Semester, Day & Period 0682100 Fall semester Fri: 3 単位数 Credit 科目区分 Course type 2 担当教員 Instructor VASSILEVA Maria(VASSILEVA Maria) 所属研究室 Laboratory E202 \_\_\_\_\_ 連絡先 Contact mnvassileva@bio.nagoya-u.ac.jp 居室 Room E202

# 講義の目的とねらい Course purpose

Aims: This course aims to develop students ' foundation in basic cell organization. The course provides students with an overview of cell structure, proteins structure and function, and fundamental genetic processes in the cell.

## 履修要件 Prerequisite

Strongly recommended to have completed Fundamentals of Biology I

履修取り下げの方法について How to Apply for Course Withdrawal

<「履修取り下げ届」提出の要・不要 Necessity/Unnecessity to submit "Course Withdrawal Request Form"> Necessary

<条件等 Conditions>

Students need to submit a Course Withdrawal Request Form when they have no intention of finishing the course. Submission of Course Withdrawal Request is required to receive Absent grade. This can be done by contacting the course instructor by e-mail.

## 成績評価 Grading

Evaluation is based on class participation, assignments and examinations. A total score of at least 60/100 is required to receive a passing grade.

不可(F)と欠席(W)の基準 Criteria for "Absent(W)" & "Fail" grades

Absent – based on submission of Course Withdrawal Request Form. Fail - a total accumulated score of less than 60%.

関連する科目 Related courses

# 教室 Class room

Check the Course Timetable.

A 408 (in Fall 2020 this course may be conducted entirely online, information about the actual course format will be provided on NUCT course space)

# 到達目標 Goal

By the end of the course students should be able to understand and explain in appropriate scientific terminology:

(1) overall cellular organization,

(2) molecular structure of proteins and its importance for all cellular processes,

(3) how the genetic material is maintained and expressed in cells,

(4) how these genetic mechanisms impact evolution.

Students will also develop theoretical understanding of molecular biology laboratory techniques and will gain experience reading primary scientific literature related to the course content.

## 授業内容 Content

- 1. Basic cell organization;
- 2. Protein structure and function;
- 3. Structure of DNA and chromosomes;
- 4. DNA replication, repair and recombination;
- 5. DNA expression
- 6. Control of gene expression
- 7. Introduction to evolutionary biology
- 8. Introduction to molecular biology methods

Assignments and preparations outside of class hours: students are required to prepare for each class by reading the assigned textbook content and preparing a short schematic summary of important concepts before class.

# 教科書 Textbook

Essential Cell Biology, B. Alberts et al., Garland Science.

参考書 Recommended reading

Becker's world of the cell, Hardin, Bertoni, Kleinsmith, Pearson. Molecular Biology of the Cell, B. Alberts et al., Taylor & Francis.

連絡方法 Contact method

The course instructor accepts questions outside the class hours by e-mail.

## その他 Remarks

\*See Course List and Graduation Requirements for your program for your enrollment year. The class time focuses on discussion of the class material, thus coming prepared for class is essential.