# BICD 100 - Genetics - Reinagel [SP24]

**BICD100 Genetics SP24 Syllabus**

**Instructor: Pamela Reinagel** **Textbook: NONE**

**Lectures: 12:00-12:50PM Solis 107** **CODON LEARNING**
**(required)**

Email: **preinagel@ucsd.edu (mailto:preinagel@ucsd.edu)**

Office hours: Thursdays 9-10AM starting 4/11/24 Pacific Hall 3100A (zoom by arrangement)

Sections (attend the section in which you are enrolled), starting WEEK 2

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|---|---|---|---|---|---|
| B01 | M | 4:00p-4:50p | PETER | 102 | Xiaoqing (Nora) |
| B02 | W | 6:00p-6:50p | WLH | 2205 | Xiaoqing (Nora) and Sofia |
| B03 | W | 7:00p-7:50p | WLH | 2205 | Xiaoqing (Nora) |
| B04 | F | 2:00p-2:50p | PETER | 102 | Xiaoqing (Nora) and Andrew |

**Instructional Assistants**

| | email | Office hours (starting week 2) |
|---|---|---|
| Xiaoqing (Nora) Fan | xifan@ucsd.edu | Wednesdays 4-6PM on zoom: https://ucsd.zoom.us/j/7239901351 |
| Andrew Dallape | adallape@ucsd.edu | Wednesdays 10:30-11:30 at Audrey's Cafe in Geisel |
| Sofia Kahn | s4khan@ucsd.edu | Wednesdays at 10 am on zoom: https://ucsd.zoom.us/j/95258428771 |

**Scope and goals of this course:** This course covers classical genetics: the fundamental principles explaining how heritable traits are passed down from generation to generation. The main patterns of inheritance can be observed in simple experiments and explained with a few basic principles. The goal of the course is to teach you these basic principles, and show you how to think through new problems by applying these basic principles using logic. **Genetics is elegant and fun, and I look forward to being your tour guide.**

Course At A Glance - see CODON for finer details

| Week | Lectures | Topic | Tests/comments |
|---|---|---|---|
| **1** | April 1,3,5 | Single trait Mendelian inheritance | No sections or office hours this week |

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| **2** | April 8,10,12 | Multiple trait Mendelian inheritance | |
| **3** | April 15,17,19 | Modified Mendelian Ratios | |
| **4** | April **22**,24,26 | Chromosome theory, Meiosis | April 22th in class: Exam 1 |
| **5** | Apr 29, May 1,3 | Sex linkage, Pedigrees | |
| **6** | May 6,8,10 | Genetic linkage | |
| **7** | May 13,**15**,17 | Linkage mapping | May 15th in class: Exam II |
| **8** | May 20,22,24 | Prokaryotic genetics | |
| **9** | May ~~27~~,29,31 | Population genetics | No class May 27th |
| **10** | June 3,**5**,7 | Mutations, Genetic screens | June 5th in class: Exam III |
| | **June 12** | | FINAL 6/12 We 11:30am-2:30pm |

**CODON:** Every student is required to purchase a CODON account for this course. Most graded assignments other than exams will be distributed, collected and graded in CODON.

**Textbook:** There is no textbook. Readings will be provided on Canvas as PDF files or links to free online content. If you like to study from a printed textbook, any college-level introductory Genetics textbook published after 1950 should be fine, just check for the topics listed above.

**Podcasts:** You are responsible for all the material covered in lecture or section, and all material you are responsible will be covered in lecture or section. The lectures will be podcast in audio and video, and recordings posted on Canvas with a short delay after each class. Photos of the blackboards, and any projected slides (rare), will also be posted on Canvas after class. Sections will not be recorded.

**Grading scheme:**

CODON assignments 40% of final grade

Sections 10% of final grade (10 x 1% each)*

In-class exams 30% of final grade (3 x 10% each)

Final exam 20% of final grade

*Sections do not meet in week 1. The section point will be based on completion of the Pre-Assessment assignment. You should spend up to the full hour of your assigned section time working on these problems. If the amount of time spent per question suggests you just sped through guessing, you won't get credit. If you do not want to do the Pre-Assessment, there will be an opportunity for an alternative assignment.

There is no curve. There are no + and – grades. Cutoffs for letter grades are A >90%, B >80%, C >70%, D >60. For the Pass/No-Pass option, the cutoff for P is >70%.

**More about the course**

CODON will have a large number of low-stakes assignments including pre-class preparatory work before most lectures; weekly homework, test prep questions, and practice tests. The assignments will be populated into the CODON course gradually, but no later than Monday of the week they are due.

Section will typically involve working problems in groups, and will be graded for *completion* of the work based on *individually* submitted answers. Solutions posted after all sections have met can be used to *self-assess* the correctness of your solution.

Exams (in-class and Final) will contain short answer questions, numerical word problems, diagram drawing, multiple choice and fill-in-the-blank type questions. Any word problem scenarios or complex diagrams used on exams will be distributed one week in advance so you have time to understand them. You may discuss and study these pre-exam materials with peers, but NOT with Instructional Assistants. During exams you will need **colored pens or pencils for diagrams** (at least 4 colors) – choose ones that don't bleed through paper. You will need a **4-function calculator**; no graphing calculators or phones. You may bring a **note page** with you to each exam (one page, hand written, front and back, 8.5x11" paper); these note pages must be turned in with the exam.

**Words of advice:** *1. The material is cumulative,* so if you get lost or confused, ask questions, and don't delay seeking help. Every lecture and assignment will draw upon everything we have covered up to that date. *2. If you struggle with math,* consider reviewing or seeking tutoring on math skills early in the quarter. In this class you will need to solve numerical problems using arithmetic and algebra on a regular basis, including on timed tests. *3. Resist the temptation to memorize rote procedures for solving problems.* We will work through problems in a variety of formats, and approach the same concept from different angles, so that you will be prepared to recognize and apply the principle in completely new contexts. The goal is to teach you *how to figure out* solutions, not teach you standard solutions. Recipes and tricks won't help you.

**Academic integrity policy:** All graded assignments and exams must be your own independent work. Collaboration with others, or use of ChatGPT or similar tools, are not allowed unless the assignment specifically allows them, and then only with full disclosure. If a student is found to have cheated, such as copying another student's answers during a test, having another student complete online work, or

obtaining an advance copy of an exam or answer key, they will be given a grade of 0 (F) in the course and also referred to academic integrity office for possible disciplinary action. There will be no exceptions. *Don't cheat. If you are struggling, talk to your IA or the professor. We are here to help.*

**Support:**

If you need specific accommodations as determined by the Office for Students with Disabilities **https://osd.ucsd.edu/ (https://osd.ucsd.edu/)** , please notify the professor and your IA as early as possible.

Additional campus resources for everyone include:
Office of Academic Support and Instructional Services (OASIS) **https://oasis.ucsd.edu/ (https://oasis.ucsd.edu/)**
Teaching + Learning Commons **https://commons.ucsd.edu/ (https://commons.ucsd.edu/)**
Counseling and Psychological Services (CAPS) **https://caps.ucsd.edu/ (https://caps.ucsd.edu/)**

**Policy for missed classes, assignments, or exams:**

- Attendance will not be taken at **lectures**. If you miss a lecture for any reason, or just don't want to come, you can use the podcasts to watch remotely or catch up the missed material. You will get more out of class if you attend in person, but only if you are awake, paying attention and participating.
- Problems worked during **sections** will be turned in at the end of section. If you must miss a section you can arrange to attend a different section, but you are expected to attend the section in which you are enrolled.
- Deadlines on CODON assignments are enforced as indicated. If partial credit is available for late submissions or if there is a re-do option, this will be visible on the assignment.
- If you have a qualifying excuse in advance (such as a sports team event or religious observance) forcing you to miss an assignment, section, or exam, submit documentation of this to your Instructional Assistant well in advance. If an unanticipated qualifying emergency causes you to miss an assignment, section or exam, take care of yourself first, and submit official documentation to your Instructional Assistant as soon as possible afterwards. Approved qualifying excuses will have the assignment, section, or exam excused, and the other items in the same category used as the basis of that entire component of the grade. No make-up assignments or exams will be given, but you are encouraged to complete the missed assignment or exam yourself, for the sake of the practice and self-assessment.
- No student can be excused from the final exam. If you have a conflict with the final exam date and time, drop this course. If you must miss the final because of a qualifying unanticipated emergency or illness, submit documentation to the professor as soon as you are able. Final exam make-ups are oral exams, typically scheduled the following Fall quarter.
- **Drop Lowest Policy:** I recognize that occasionally a minor assignment may be missed, late, or earn a low score for some mitigating circumstances not qualifying an excused absence, such as a cold/flu, car trouble, confused dates, etc. To allow for this in a fair way that does not require you to plead a case or provide documentation, we will simply drop the **lowest score** in *each category* for every

student in the class, and average the remaining scores for that category respectively. You do not need to submit requests or justifications for minor problems of this kind. If you miss/bomb one assignment (without a documented, qualifying excuse), it will be automatically dropped. If you miss more than one, your final grade will be impacted. This policy balances the need for flexibility with the need for grades to reflect actual performance. These categories are: Section, Homework, Prep Questions, and Practice Tests. This policy does not apply to exams.