Tentative Syllabus as of 3/26/2024. Dates and policies are subject to change.

Genetic Analysis I: 384. Sections 01-03, H1, Fall 2024

Welcome to the Genetics Major!
(*Course for Genetics Majors Only*)

The Course Canvas website is located at: TBD

Meeting Days/Places
Classes: Tuesday and Thursday, 3:50 PM - 5:10 PM. Classes held in SEC-117 (in-person only!)

Recitation: each student is assigned one recitation section held on Mondays according to your assigned timeslot.
01- Wednesday 10:35 AM - 11:30 AM Busch SEC-216
02- Wednesday 12:25 PM - 1:20 PM Busch ARC-204
H1- Wednesday 4:05 PM - 5:00 PM Busch ARC-110

Course Instructors and Office Hours:
Dr. Srujana (Sam) Yadavalli is the lead instructor for the first half of the course (Molecular Genetics) and Dr. Mike Verzi is the lead instructor for the second half of the course (Transmission Genetics).

Dr. Yadavalli: TBD, Waksman Institute - New Wing 3rd floor A3037
Dr. Verzi: TBD, LSB 127
TA/office hours: TBD

Class environment: Since you are training to be scientists, we will model the class in the spirit of working as scientific colleagues (with the instructors and each other), practicing evidence-based thinking and learning, and valuing collaboration and diversity. I encourage you to strive towards learning, not grades!

In an effort to work as scientists in class (with team-based problem solving), we can't afford as much time for content transfer. **Therefore pre-class reading assignments are essential for you to come prepared to class with an understanding of the content. Pre-reading assignments will be assessed on-line.**

Materials:

1) **Device** needed in class to take quizzes, respond to polls, and possibly some other activities.
2) **Text**: We will be using a digital text with an on-line resource for this course. Get access at the following site. **We recommend getting the lifetime eBook, as you'll need it for the second semester**: ISBN10: 1266121870 | ISBN13: 9781266121876
   Genetics: From Genes to Genomes, 8th Edition

Additional, OPTIONAL paper-based resources are available. Details from the publisher at the same eBook link above.

Disability – If you have a documented disability and require special accommodations, please let us know as soon as possible. Students with disabilities requesting accommodations must follow the procedures outlined at https://ods.rutgers.edu/letter-accommodation.

Full disability policies and procedures are at **https://ods.rutgers.edu/**

Assessment: Ideally, you will acquire skills necessary to assess your own learning. You will be able to integrate ideas and concepts, form your own questions, decide which questions are the most important, and then seek evidence to answer them.

Below is the breakdown for class assessment:
10% for pre-class reading – quizzes
20% for recitation work – problem sets
6% for pre- and post- course essays
10% for in-class group work and participation on the class form, asking questions and answering other students' questions
13.5% for transmission genetics exam I
13.5% for transmission genetics exam II
13.5% for molecular genetics exam I
13.5% for molecular genetics exam II

(Assessment on current events will be interwoven into all of the above; current events relevant to the class material will begin each class period)

We use the predominant Rutgers grading scale:
A = 89.5-100
B+ = 84.5-89.49
B = 79.5-84.49
C+ = 74.5-79.49
C = 69.5-74.49
D = 59.5-69.49
F = 0-59.49

Attendance: Attendance is mandatory. Unexcused absences are not tolerated, as per Rutgers policy. This is particularly important in a class aimed at developing collaborative problem solving. You can't collaborate if you are not in class. Unexcused absences from class will be graded as zero for class participation and group work for that day. One unexcused absence from recitation will be scored as zero for the missed week and two unexcused absences from recitation will result in failing the class. Part of class participation will include use of real-time polling, discussions, and use of a chatroom (Discussions tab on Canvas) for additional questions/discussions after class. Failure to participate will impact your in-class grade. **If you expect to miss any classes, please use the University absence reporting** website https://sims.rutgers.edu/ssra/ to indicate the date and reason for your absence.

Current Events: Each class will contain a current event that relates to the day's lesson, typically to start the class. The content of these discussions will be interwoven into the assessments. It's advisable to be on time to class. Students are encouraged to suggest current events for discussion on the class forum/discussion page.

Genetics Department Goals Covered in this course:
1) Know the terms, concepts and theories in genetics.
2) Integrate the material from multiple courses and research. That is, to think holistically and to see the whole as well as the parts.

Core curriculum Goals Covered in this course: In this course you will analyze the relationship that science and technology have to contemporary social issues in each class meeting and in written assignments. Therefore, the course meets the **Contemporary Challenges [CCO-2]** requirement in the SAS core curriculum.

Course Goals: We will attempt to accomplish the following goals, roughly in chronological order; each learning goal will be approximately 1 class length. However, it's important to be able to relate each goal to the others. We will attempt to design assessments around your ability to demonstrate you've accomplished these learning objectives.

Recitation problem sets and directions will typically be distributed the Wednesday prior to collection (~1 week). They will be done individually and submitted before recitation, then a revised copy worked on and submitted as groups during the first 25 minutes of recitation in breakout groups. The group copy will be graded, but clear effort should be seen on individual copies. The remaining 30 minutes of recitation will be to review the problems that were just submitted with the TA. Note, for the Honors recitation section, there will not be a groupwork period during recitation. Instead, time will be devoted to additional problem solving, literature review, current events, policy discussion, etc.

Note: ***see Canvas website for updated due dates on reading assignments.*** *Dates are approximate, and the syllabus may be updated, but the following topics will be covered roughly in chronological order:*

Introduction to Genetic Analysis – Class 1 (Drs. Verzi and Yadavalli)

Part 1: Molecular Genetics (Dr. Yadavalli)

Learning Goal 1-3: DNA Structure, Replication, and Recombination

(Chapter 6)

Learning objectives:

6.1 Experimental Evidence for DNA as the Genetic Material 6.2 The Watson and Crick Double Helix Model of DNA 6.3 Genetic Information in Nucleotide Sequence 6.4 DNA Replication 6.5 Homologous Recombination at the DNA Level 6.6 Site-Specific Recombination

Learning Goal 1: DNA Structure, Replication, and Recombination (Chapter 6)

Learning objectives:

Experimental Evidence for DNA as the Genetic Material

-Describe the chemical components of DNA.
-Summarize the methods that located DNA in chromosomes.
-Explain how Avery and his colleagues demonstrated bacterial transformation and explain the significance of this finding.
-Describe the blender experiments of Hershey and Chase and what the results revealed about DNA's function.

The Watson and Crick Double Helix Model of DNA

-Describe the key features of the Watson-Crick model for DNA structure. -Explain what is meant by the antiparallel polarity of the two strands of DNA within the double helix.
-Distinguish the different structural forms of DNA from one another.

Learning Goal 2: DNA Structure, Replication, and Recombination (Chapter 6)

Learning objectives:

Structure-function difference in DNA and RNA

DNA Replication in Eukaryotes

-Describe the key steps in the semiconservative replication of DNA.
-Explain how the Meselson-Stahl experiment with heavy nitrogen showed that DNA replication is semiconservative.
-Summarize the key factors DNA polymerase requires to replicate DNA. -Outline the steps in the process of DNA replication and how they relate to the requirements of DNA polymerase.

-Discuss three ways cells preserve the accuracy and integrity of the genetic information in DNA.

Learning Goal 3: DNA Structure, Replication, and Recombination (Chapter 6)
Learning objectives:

DNA Replication in Prokaryotes

Homologous Recombination at the DNA Level

-Summarize the evidence from tetrad analysis confirming that recombination occurs at the four-strand stage and involves reciprocal exchange.
-Explain how we know that DNA breaks and rejoins during recombination. -List the key steps of recombination at the molecular level.

-Explain why recombination events do not always result in crossing-over.

Site-Specific Recombination

-Diagram the possible outcomes of site-specific recombination.
-List the components that would have to be introduced to import site-specific recombination into a newly discovered organism.
-Contrast the functions of Spo11 and Cas9, two enzymes that catalyze the formation of double-strand breaks.
- Genome Editing by CRISPR-CAS-9

Learning Goal 4-6: Gene Expression: The Flow of Information from DNA to RNA to Protein (Chapter 9)

Learning objectives:

9.1 The Genetic Code 9.2 Transcription: From DNA to RNA 9.3 Translation: From mRNA to Protein 9.4 Differences in Gene Expression Between Prokaryotes and Eukaryotes 9.5 The Effects of Mutations on Gene Expression and Function

Learning Goal 4: Gene Expression: The Flow of Information from DNA to RNA to Protein (Chapter 9)

Learning objectives:

The Genetic Code

-The complexity of living system
-Explain the reasoning that established a sequence of three nucleotides (a triplet codon) as the basic unit of the code relating DNA to protein.
-Summarize the evidence showing that the sequence of nucleotides in a gene is colinear with the sequence of amino acids in a protein.

-Define reading frame and discuss its significance to the genetic code. -Describe experiments that determined which codons are associated with each amino acid and which are stop codons.

-Explain how mutations were used to verify the genetic code.
-Discuss evidence that the genetic code is almost universal, and cite some exceptions.

Learning Goal 5: Gene Expression: The Flow of Information from DNA to RNA to Protein (Chapter 9)

Learning objectives:

Transcription: From DNA to RNA

-Describe the three stages of transcription: initiation, elongation, and termination. -Compare transcription initiation in prokaryotes and eukaryotes.
-List three ways by which eukaryotes process mRNA after transcription.

Learning Goal 6: Gene Expression: The Flow of Information from DNA to RNA to Protein (Chapter 9)

Learning objectives:

mRNA processing in Eukaryotic cells

Translation: From mRNA to Protein

-Relate tRNA's structure to its function.
-Describe the key steps of translation, indicating how each depends on the ribosome.
-List three categories of posttranslational processing and provide examples of each.

Learning Goal 7-8: Bacterial Genetics (Chapter 16)

Learning objectives:

16.1 The Enormous Diversity of Bacteria 16.2 Bacterial Genomes 16.3 Bacteria as Experimental Organisms 16.4 Gene transfer in Bacteria 16.5 Using Genetics to Study Bacterial Life 16.6 A Comprehensive Example: How *N. gonorrhoeae* Became Resistant to Penicillin

Learning Goal 7: Bacterial Genetics (Chapter 16)

Learning objectives:

The Enormous Diversity of Bacteria

-List key features of prokaryotic cells.

-Discuss how bacterial habitats influence bacterial metabolisms.

-Summarize the properties that make certain bacteria pathogenic to humans.

Bacterial Genomes

-Describe how genes are organized within a bacterial genome.

-Differentiate between a species' core genome and its pangenome.

-Discriminate between IS and Tn transposable elements in bacteria.

-Describe how plasmids conferring multidrug resistance to bacteria may have evolved.

-Explain how the study of metagenomics might yield practical benefits.

Bacteria as Experimental Organisms

-Describe the features of bacteria, particularly *E. coli*, that make them useful laboratory organisms.

-Describe different classes of bacterial mutants and the methods for identifying them.

Class 8: Molecular Genetics Exam 1, 09/26/2024

Learning Goal 8: Bacterial Genetics (Chapter 16)

Learning objectives:

Gene Transfer in Bacteria

-Compare the three mechanisms of gene transfer in bacteria: transformation, conjugation, and transduction.

-Explain how each of these three methods of gene transfer can be used to map bacterial genes.

-Discuss the role of horizontal gene transfer in the evolution of bacteria

Using Genetics to Study Bacterial Life

-Explain how to identify mutant genes molecularly by transformation with recombinant plasmids.

-Discuss the use of transposons as mutagens in bacteria.

-Describe how to generate specific mutations in any *E. coli* gene by gene targeting.

A Comprehensive Example: How *N. gonorrhoeae* Became Resistant to Penicillin

-Explain how penicillin kills bacteria.

-Describe mechanisms of penicillin resistance and how *N. gonorrhoeae* has become resistant.

-Discuss potential solutions to the worldwide problem of drug-resistant pathogens.

Learning Goal 9-10: Gene Regulation in Prokaryotes (Chapter 18)

Learning objectives:

18.1 The Elements of Prokaryotic Gene Expression 18.2 Regulation of Transcription Initiation via DNA-Binding Proteins 18.3 RNA-Mediated Mechanisms of Gene Regulation 18.4 Discovering and Manipulating Bacterial Gene Regulatory Mechanisms 18.5 A Comprehensive Example: Control of Bioluminescence by Quorum Sensing

Learning Goal 9: Gene Regulation in Prokaryotes (Chapter 18)

Learning objectives:

The Elements of Prokaryotic Gene Expression

-Describe the function in prokaryotic transcription of the RNA polymerase core enzyme, sigma factor, and rho factor.

-Explain why an mRNA molecule can be transcribed and translated simultaneously in prokaryotes.

-List the steps in gene expression that are potentially subject to regulation.

Regulation of Transcription Initiation via DNA-Binding Proteins

-Compare the regulation requirements of catabolic pathways to those of anabolic pathways.

-Outline the operon theory using *lac* operon as an example.

-Discuss genetic evidence that *lacI* encodes an allosteric repressor protein that binds the operator DNA.

-Explain why it is advantageous for transcriptional regulatory proteins to be multimeric and for their binding sites to be clustered.

-Compare the actions of positive and negative regulatory proteins at promoters.

-Explain how repressor proteins can be central to the regulation of both catabolic and anabolic operons.

Learning Goal 10: Gene Regulation in Prokaryotes (Chapter 18)

RNA-Mediated Mechanisms of Gene Regulation

-Explain how RNA leader devices can regulate gene expression in response to environmental conditions.

-List two different ways in which trans-acting small RNAs (sRNAs) regulate the expression of target genes.

Describe the relationship between the promoters for sense and antisense RNAs of a gene.

Discovering and Manipulating Bacterial Gene Regulatory Mechanisms

-Describe the ways in which scientists employ *lacZ* reporter genes to study gene regulation.

-Explain how regulatory regions of the lac operon can be used in the production of pharmaceutical proteins.

-Discuss RNA-Seq and its application in the study of bacterial responses to heat shock.

-List at least two ways in which computerized analysis of transcriptomes aids genetic research.

A Comprehensive Example: Control of Bioluminescence by Quorum Sensing

-Explain how scientists used *E. coli* to identify the *V. fischeri* bioluminescence genes.

-Describe the molecular mechanism by which quorum sensing controls bioluminescence in *V. fischeri*.

-Discuss the possible advantages of quorum sensing proteins as antibiotic targets.

Learning Goal 11-12: Digital Analysis of DNA (Chapter 10)

Learning objectives:

10.1 Fragmenting DNA 10.2 Cloning DNA Fragments 10.3 Sequencing DNA 10.4 Sequencing Genomes

Learning Goal 11: Digital Analysis of DNA (Chapter 10)

Learning objectives:

Fragmenting DNA

-Explain how the analysis of arginine auxotrophs implied that a single gene corresponds to a single enzyme.
-Describe how missense mutations were used to show that genes determine the amino acid sequences of proteins.

-Differentiate between primary, secondary, tertiary, and quaternary structures of proteins.

-Describe the functions of the four photoreceptor proteins in human vision. -Outline how the genes encoding the photoreceptors evolved through duplication and divergence of an ancestral

gene.
-Explain how mutations in the photoreceptor genes result in different vision defects.

-Distinguish between digesting DNA with restriction enzymes and mechanical shearing of DNA.
-Describe how certain restriction enzymes generate DNA fragments with sticky ends, while others generate blunt-ended fragments.

-Calculate the average sizes and numbers of DNA fragments produced by digesting human genomic DNA with a given restriction enzyme.
-Summarize the process by which gel electrophoresis separates DNA fragments.

Cloning DNA Fragments

-Diagram the process by which restriction enzymes and DNA ligase are used to make recombinant DNA molecules.
-Describe how scientists produce cellular clones of recombinant DNA molecules. -Contrast the use of plasmid vectors with that of BAC or YAC (bacterial or yeast artificial chromosome) vectors.

-Explain why genomic DNA libraries require more colonies than are contained by a single genome equivalent.

Learning Goal 12: Digital Analysis of DNA (Chapter 10)

Learning objectives:

Sequencing DNA

Sequencing Genomes

-Explain the roles of DNA polymerase, the template, and the primer in a Sanger sequencing reaction.
-Describe the role of dideoxyribonucleotides in generating DNA fragments for analysis.

-Interpret the fluorescent peaks obtained during a DNA sequencing run as a sequence of nucleotides with the proper polarity

-Explain why overlap between individual DNA sequences is required to reconstruct the sequence of a genome.
-Describe the differences between the hierarchical and shotgun strategies for genome sequencing.

Class 14: Molecular Genetics Exam 2, 10/17/2024

Schedule for Part I – Molecular Genetics

Assignment	Details	Due date
Pre-reading assignment 1	Text Chapter 6.1-6.2	In-class quiz

	DNA Structure, Replication, and Recombination	09/03/2024
NO RECITATION		09/04/2024
Pre-reading assignment 2	Text Chapter 6.3-6.4 DNA Structure, Replication, and Recombination	In-class quiz 09/05/2024
Pre-reading assignment 3	Text Chapter 6.5-6.6 DNA Structure, Replication, and Recombination	In-class quiz 09/10/2024
Recitation 1		**09/11/2024**
Pre-reading assignment 4	Text Chapter 9.1 Gene Expression: The Flow of Information from DNA to RNA to Protein	In-class quiz 09/12/2024
Pre-reading assignment 5	Text Chapter 9.2 Gene Expression: The Flow of Information from DNA to RNA to Protein	In-class quiz 09/17/2024
Recitation 2		**09/18/2024**
Pre-reading assignment 6	Text Chapter 9.3-9.4 Gene Expression: The Flow of Information from DNA to RNA to Protein	In-class quiz 09/19/2024
Pre-reading assignment 7	Text Chapter 16.1-16.3 Bacterial Genetics	In-class quiz 09/24/2024
Recitation 3		**09/25/2024**
Exam 1	**Chapters 6 and 9**	**09/26/2024**
Pre-reading assignment 8	Text Chapter 16.4-16.6 Bacterial Genetics	In-class quiz 10/01/2024
Recitation 4		**10/02/2024**
Pre-reading assignment 9	Text Chapter 18.1-18.2 Gene Regulation in Prokaryotes	In-class quiz 10/03/2024
Pre-reading assignment 10	Text Chapter 18.3-18.4 Gene Regulation in Prokaryotes	In-class quiz 10/08/2024
Recitation 5		**10/09/2024**
Pre-reading assignment 11	Text Chapter 10 Digital Analysis of DNA	In-class quiz 10/10/2024
No quiz/reading assignment	*Overflow and review class for exam IV*	*10/15/2024*
Recitation 6		**10/16/2024**
EXAM 2	**Chapters 16, 18 and 10**	**10/17/2024**

Study Schedule Example for Molecular Genetics - Part 1:
First week of September: Book problems from Chapter 6.1-6.4

Second week of September: Book problems from Chapter 6.5-6.6, 9.1

Third week of September: Book problems from Chapter 9.2-9.4, practice exam III

Fourth week of September: Book problems from Chapter 16.1-16.3

First week of October: Book problems from Chapter 16.4-16.6, Chapter 18.1-18.2

Second week of October: Book problems from Chapter 18.3-18.4, Chapter 10, practice exam IV

Part 2: Transmission Genetics (Dr. Verzi)

Learning Goal 1: Understand common patterns of inheritance

Class 1 [book chapter 1.1-1.2]

Specific learning objectives:

-Be able to predict the outcome of a genetic cross

-Relate common genetic terms to one another (gene, allele, genotype, phenotype, trait, heterozygous, homozygous, allele segregation, dominant, recessive, independent assortment)

-predict the outcome of genetic crosses that track dominant and recessive genes

Learning Goal 2: Appreciate how inheritance patterns can be predicted using statistics and the laws of inheritance

Class 1-3 [book chapter 1.2-1.3]

Specific learning objectives:

-Discern between and apply the sum and product rules to predict the probability of genetic cross outcomes

-Appreciate the importance of statistics in research, know how to choose an appropriate statistical test, and plan for an adequate sample size in your experiments

-Explain Mendel's law of independent assortment and how the 9:3:3:1 phenotypic ratio among the F_2 of a dihybrid cross provides evidence for this law.

-Interpret phenotypic ratios of progeny to infer how particular traits are inherited.

-Predict the genotypic and phenotypic ratios among progeny of complex multihybrid crosses using simple rules of probability.

- Create pedigrees showing inheritance of a dominant or recessive trait

Learning Goal 3: Understand Chromosome Structure and the process by which chromosomes are duplicated and segregated in mitosis and meiosis

Class 4 [book chapter 3]

-Explain how to create and interpret a karyotype, and what you'd use it for

-Diagram the order of steps in mitosis and the importance of restriction points (aka checkpoints)

-Discuss the advantages of sexual reproduction and how meiosis contributes to these advantages

-Relate differences in mammalian male and female meiosis to chromosomal disorders

Learning Goal 4: Chromosome theory and Sexual dimorphism.

Class 5 [book chapter 4]

-Be able to explain sex-linked inheritance pattern and be able to create a pedigree exhibiting sex-linked inheritance
-Explain what dosage compensation is and what problem it solves.
-Distinguish between sex-influenced, sex-limited, and sex-linked
-What is the evidence that the *SRY* gene confers male phenotype in mammals?
-Discuss why dosage compensation is important and how it is achieved in mammals

Learning Goal 5: Understand single gene inheritance patterns that don't fit the simple dominant/recessive relationship observed by Mendel.

Class 6 [book chapter 2.1]

-Explain the relationship between an inheritance pattern and the likely underlying molecular mechanism
-Define and contrast different types of single-gene inheritance patterns
-Discuss the influence of environment on traits
-Explain how multiple alleles contribute to the inheritance pattern of blood type

Class 7: Transmission Genetics Exam I 9/26

Learning Goal 6: Understand how gene-gene interactions can impact phenotypes

Class8-9 [book chapter 2.2]

-Be able to apply epistasis, complementation, modifying genes, gene redundancy, and suppressor mutations to experiments involving research model systems and/or human genetic disease
-Define and contrast expressivity and penetrance
-Explain how Mendel's laws could apply to continuous traits that are controlled by multiple alleles of multiple genes, such as height.

Learning Goal 7: Understand Genetic Linkage and recombination

Class 10 [book chapters 5.1-5.2]

-Explain how crossing over can yield new combinations of alleles (nonparental)
-Discuss why independent assortment isn't observed with linked traits and explain the relationship between linked genes and the distance between them

Learning Goal 8: Understand how Genetic Linkage is used to map genes

Class 11-12 [book chapters 5.3-5.4, 5.6]

-Be able to design crosses that will allow you to: determine if genes are linked, and if so, determine the distance between the genes
-Apply Chi square analysis to predict whether traits are linked or sorting independently
-Apply the Chi square test as a mechanism to relate the concepts of hypothesis testing, proof, *P* value and probability.

Class 13 Overflow, review, and ethics discussions.

Class 14: Transmission Genetics Exam II 10/19 – in class

Due dates as of 8/7/23. We may adjust the schedule as necessary for school closings, class progress, etc. In that case, an updated syllabus will be posted on Canvas.

Assignment	Details	Due Date
Pre Class Writing Assignment	**5 minute essay**	**9/5 by midnight**
Pre-reading assignment 1	**Text Chapter 1.1**	**9/5 reading quiz practice**
Pre-reading assignment 2	**Text Chapter 1.2-1.3**	**9/7 reading quiz**
Pre-reading assignment 3	**Text Chapter 3**	**9/12 reading quiz**
Recitation 1	***Crosses and Probability***	***9/13***
Pre-reading assignment 3	**Text Chapter 4.1, 4.3-4.5**	**9/14 reading quiz**
Recitation 2	***Meiosis Diagram***	***9/20***
Pre-reading assignment 4	**Text Chapter 2.1**	**9/21 reading quiz**
Recitation 3	***Complex Mendel***	***9/27***
EXAM 3		**9/28**
Pre-reading assignment 5	**Text Chapter 2.2-2.3**	**10/3 reading quiz**
Recitation 4	***Gene-Gene Interactions***	***10/4***
Pre-reading assignment 6	**Text Chapter 5.1, 5.2, 5.4,**	**10/10 reading quiz**
Recitation 5	***Linkage and Chi-Square***	***10/11***
Pre-reading assignment 7	**Text Chapter 5.3, 5.6**	**10/12 reading quiz**
Recitation 6	***Linkage and mapping***	***10/18***
EXAM 4		**10/19**

Study Schedule Example:
First week of September, Practice Chapter 1 book problems
Second week of September Continue Ch. 1 problems plus Chapter 3 problems
Third week of September, Chapter 4.3-4.4 problems, Chapter 2.1 and 2.3 problems, and previous year's exams

Post to the discussion board if you can't figure out a problem and we can try and help as a class! This discourse will count towards your extra credit grade. You can also attend office hours for extra help on the study problems.

Student-Wellness Services:

- Student Success Essentials: https://success.rutgers.edu
- Student Support Services: https://www.rutgers.edu/academics/student-support
- The Learning Centers: https://rlc.rutgers.edu/
- Rutgers Libraries: https://www.libraries.rutgers.edu/
- Bias Incident Reporting: https://studentaffairs.rutgers.edu/bias-incident-reporting
- Dean of Students – Student Support Office: https://success.rutgers.edu/resource/dean-students-student-support-office
- Office of Veteran and Military Programs and Services: https://veterans.rutgers.edu
- Student Health Services: http://health.rutgers.edu/
- Counseling, Alcohol and Other Drug Assistance Program & Psychiatric Services (CAPS): http://health.rutgers.edu/medical-counseling-services/counseling/
- UWill: free immediate access to teletherapy; you can choose a therapist based on your preferences including issue, gender, language, ethnicity. http://health.rutgers.edu/uwill/
- Office for Violence Prevention and Victim Assistance: www.vpva.rutgers.edu/
- Office of Disability Services: https://ods.rutgers.edu/
- Basic Needs Assistance (food, housing, and other essentials): https://ruoffcampus.rutgers.edu/basic-needs
- Rutgers Student Food Pantry: https://ruoffcampus.rutgers.edu/food-pantry

Current Academic Integrity Policy:
http://academicintegrity.rutgers.edu/
Violations include: cheating, fabrication, plagiarism, denying others access to information or material, and facilitating violations of academic integrity.

ACADEMIC INTEGRITY AT RUTGERS: In accordance with departmental and University Policy, violations of academic integrity will immediately be referred to the dean. See the attached statement from our departmental Vice Chair below:

Attendance Policy

Students are responsible for all materials related to this course, including lecture material, material posted online, and assigned reading. Students are expected to attend all meetings of the course; a failure in attendance will be grounds for failure of the course. An anticipated absence should be discussed with an instructor prior to the date in question; an excused absence in such a situation is at the discretion of the instructor. Students are expected to attend and participate in recitation; punctuality and participation will be major factors in the recitation performance grade. Late assignments will not be accepted, and no makeup will be given for them. Only one makeup exam during the entire course will be permitted for a student who fails to attend an exam; a reasonable explanation for the absence, as assessed by the instructor, will be required.

If you have a documented disability and require special accommodations, please let us know as soon as possible.

Other Policies

We expect students' active participation during lectures and section, including comments and questions. A cooperative approach to learning is strongly encouraged with regard to in-class discussion and the assigned reading; students can work together with their classmates on these parts of the class.

Students can discuss questions on the recitation problem set homework assignments with each other or with the instructors; however, students are expected to submit original written work. Thus, "word for word" copying of even a single answer is unacceptable. If students discuss the problem set assignments with others, then they should be sure to write up their answers in their own words.

Students are expected to complete the online quizzes independently. They may not share answers with other students or even discuss the questions with other students prior to the quiz deadline.

Finally, students are required to work independently on the in-class exams.

All students who violate academic integrity will be reported to the appropriate dean, academic officer, and/or appropriate hearing board for disciplinary action immediately, regardless of the level of offense. This includes students who are cheating as well as students who are helping to facilitate cheating or other academic dishonesty. We will advocate for the strongest possible sanctions against students who violate academic integrity, including but not limited to assigning the grade of XF (disciplinary F) for the course, suspension for one or more semesters, and permanent expulsion from the University with a permanent notation of disciplinary expulsion on the student's transcript.

All students are expected to read the Rutgers University Academic Integrity Policy. More information can be obtained at the following website:

http://academicintegrity.rutgers.edu/