

Spring 2024

## **BIOL 628-002: Cell Biology of Disease**

Darshan Desai

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**NJIT CELL BIOLOGY OF DISEASE: CELLS GONE WILD!**

**Instructor: Darshan J Desai** [darshan@njit.edu](mailto:darshan@njit.edu)

Tuesday & Thursday 4:pm pm to 525pm

**Central King Building Room 314**

**Text Books:** Medical Cell Biology 3<sup>rd</sup> Ed (Steven R Goodman) {**required**}&  
Biochemistry 6<sup>th</sup> or 7<sup>th</sup> Ed (Berg, Tymoczko & Stryer)[**optional or earlier edition**] &  
Strunk and White Elements of Style {**required**}

All titles are available in NJIT Bookstore or Amazon.com

**ALL CORRESPONDENCE SHOULD HAVE THIS IN THE SUBJECT LINE OF  
THE EMAIL – BIOL 440-628 S2024**

| Lecture/Date               | Day      | Topic                          |
|----------------------------|----------|--------------------------------|
| 1 Jan 16                   | Tuesday  | Intro to the course/Objectives |
| 2 Jan 18                   | Thursday | Intro Cell biology             |
| 3 Jan 23                   | Tuesday  | Intro Molecular Biology        |
| 4 Jan 25                   | Thursday | Intro to pathology             |
| 5 Jan 30                   | Tuesday  | Developmental diseases 1       |
| 6 Feb 01                   | Thursday | No class                       |
| 7 Feb 06                   | Tuesday  | Genetic Disease 1              |
| 8 Feb 08                   | Thursday | Genetic Disease 2              |
| 9 Feb 13                   | Tuesday  | Diabetes 1                     |
| 10 Feb 15                  | Thursday | Diabetes 2                     |
| 11 Feb 20                  | Tuesday  | Liver disease 1                |
| 12 Feb 22                  | Thursday | Liver disease 2                |
| 13 Feb 27                  | Tuesday  | TBD                            |
| 14 Feb 29                  | Thursday | TBD                            |
| 15 Mar 05                  | Tuesday  | Immunological disease 1        |
| 16 Mar 07                  | Thursday | Immunological disease 2        |
| <b><u>Spring Break</u></b> |          |                                |
| 17 Mar 19                  | Tuesday  | Student disease A-1 TBD        |
| 18 Mar 21                  | Thursday | Student disease A-2 TBD        |
| 19 Mar 26                  | Tuesday  | Student disease B-1 TBD        |
| 20 Mar 28                  | Thursday | Student disease B-2 TBD        |
| 21 Apr 02                  | Tuesday  | Student disease C-1 TBD        |
| 22 Apr 04                  | Thursday | Student disease C-2 TBD        |

|    |        |          |                             |
|----|--------|----------|-----------------------------|
| 23 | Apr 09 | Tuesday  | Student disease D-1 TBD     |
| 24 | Apr 11 | Thursday | Student disease D-2 TBD     |
| 25 | Apr 16 | Tuesday  | Large Group disease A-1 TBD |
| 27 | Apr 18 | Thursday | Large Group disease A-2 TBD |
| 28 | Apr 23 | Tuesday  | Large Group disease B-1 TBD |
| 29 | Apr 25 | Thursday | Large Group disease B-2 TBD |

### **Goals & Objective of BIOL628/440**

- This is a seminar style course where peer reviewed journals articles and the latest scientific advances will be identified, reviewed and assessed as a class.
- The instructor will only provide background and demonstration in the early portion of the Spring 2024 semester as indicated by the dates above.
- Only if necessary, will the course instructor add to the course materials – once the background/demonstration period is over, students will be solely be responsible for course progression.
- Students are required to utilize various medical, scientific and technology databases (PubMed, Google Scholar, Web of Science) to find articles.
- Students are required to organize presentations view PowerPoint (only) to present their finding to the class- the goal of which is to learn and master how to present these materials to scientific peers and professionals.
- Students will generate mini-reviews, as discussed below and based exclusively on the ALL materials used in their team or individual presentations.
- The course will be administered via CANVAS – you must have access to NJIT CANVAS.

### **Grading:**

- Groups will be graded by both students and the instructor.
- The Instructor will have 55% of value (power points and 3 written mini-review works), with student's evaluation being 15% of complete grade.  
**Late submission of the critique will result in an automatic 25% reduction in the student's grade.**
- The major final paper is 30% of the course grade (20 -25 pages – not including bibliography, using journal double column single space format; see sample paper on CANVAS).
- Students will be assigned a unique and anonymous identifier (*known only to the instructor*) to allow for objective and un-restrictive assessment of the presentation and work effort of seminar speaker and teammates. The critiques will be submitted with in **24hrs** of each presentation and will be used towards their individual course grade. **Late submission of the**

**critique will result in an automatic 25% reduction in the student's grade.**

- **1 week** after the student's presentation, student speakers will have the anonymous critiques from the class and the instructor to allow for use in improvement of successive preparation and presentation—this will be posted on CANVAS.

**A= 90% or higher**

**B= 80% or higher**

**C= 70% or higher**

**D= 60% or higher**

**F= below 60%**

**GRADES ARE NOT NEGOTIABLE – DO NOT ASK OR TRY!**

- Teams of 2 will prepare the power points with a lecture length of 45mins, followed by discussion time by audience and instructor.
- Teams or student presenters will have the following items submitted to Dr.Desai **1 week prior to the date of the presentation** to upload on to CANVAS for class review:
  - all PDFs of the journal articles and reference materials used to generate the seminar **1 week** prior to the date of the seminar. Teams must highlight PDF articles with priority data/information
  - a 1 to 2 page summary/mini review document that outlines critical elements/data to be covered and reviewed from the journal articles submitted for the student audience to utilize
  - ❖ **Failure to provide materials on schedule will immediately result in a full letter grade reduction. NO EXCEPTIONS**
- Presentations MUST have the following elements:
  - a history of the pathology,
  - epidemiology of the pathology,
  - history of the disease,
  - clinical diagnostic/biochemical characterization of the pathology,
  - a detailed biochemical/molecular/biological mechanism of the pathology,
  - current therapeutic options
  - an emergent therapy. (*this is the 2<sup>nd</sup> half of the presentation for first team presentations* – see CANVAS for examples)
- As a Writing Intensive/Honors Course, Student presenters will have to submit a 5-10 page mini-review of the topic covered; this is done individually & independently by each student, and is due **1 week** post the student's presentation (**4 writing assignments in total**). **Late submission will not be accepted under any circumstances!! Late submission of the critique will result in an automatic 25% reduction in the student's grade for each day it is late!**

- First drafts of these papers will be submitted to **Turnitin.com** via **CANVAS** for review, edit recommendations, and academic integrity validation. Any report that has over 20% or higher similarity reports will be characterized as plagiarized and will result in unconditional failure of the assignment, followed by immediate reporting of the incident to department, chairman and dean.
  - Use of Artificial Intelligence (AI) for any element of the course is **strictly prohibited** and will be evaluated & examined upon submission of ALL materials. If AI use is identified, this constitutes a violation that will be reported to the Dean of Students office.
  - Once students receive the corrected 1<sup>st</sup> drafts from the instructor, they will re-submit the second edited draft for second review and comments after 1 week, and after a 2<sup>nd</sup> review, where student will receive further comments and edits, students will resubmit a final version after 1 week to be graded. This is on a need basis and may not be required or implemented.
  - Each student will submit 5 pathologies for a **Final LONG FORM major 20-25 page research paper (NOT INCLUDING BIOGRAPHY)** assignment on **February 15, 2024 – 12:PM**. Student must submit 5 pathologies for selection by this date. The instructor will then select which Long Form Paper subject to be written about no later than **March 1, 2024**. This paper will be in a professional “review” format to be clarified by the instructor. This assignment will be **due on April 30, 2024 – 10AM – this will NOT change**.
  - If you read and understand this syllabus – you will send me an email by Monday, January 15, 2024 before 12:00PM with the subject heading **“BIOL 448-648 S2024** – I understand this course and read the syllabus.” Include your NJIT ID number and email address in the body of the email.
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  - **B= 80% or higher**
  - **C= 70% or higher**
  - **D= 60% or higher**
  - **F= below 60%**
  - **GRADES ARE NOT NEGOTIABLE – DO NOT ASK OR TRY!**

**Plagiarism is defined as the act of using another person's words or ideas without giving credit to that person! Even if you cite the work, but copy and paste it – this is STILL considered plagiarism!**

**Office Hours:**

**Monday** 11am to 12pm & 1pm to 230pm

**Wednesday:** 11:30am to 2pm

**Students must make an appointment to meet! Please use “BIOL 440/628 Sp24” in the subject line when sending any email.**

**Phone:** 973.642.7084

**Email:** [darshan@njit.edu](mailto:darshan@njit.edu)

With regards to responding to email correspondence, I will try to reply to emails with in 24-48 hrs after receiving them. Please include the course number and name in subject line of email (*i.e. BIOL 628 Spring 2024 - I am dying*). If you do not receive a reply from me by then, please email me again including the original email sent!