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# Advanced Computer Networks: Course Plan

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- *“Welcome! Before we begin, let’s sort a couple of things.”*



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# Particulars

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- Credits: 4
- Coverage: State-of-the-art of computer networking
- Language: Content delivery, exams, etc. will be in English
- Schedule: Monsoon semester (Monday & Thursday 08:30-10:00)
- Webpage: *<https://ciaoankit.github.io/teaching.html>*
- TA: {aashish.paliwal, apoorva.thirupathi}@research.iiit.ac.in

# Course contents

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- Concepts of advanced computer networking
  - Congestion control
  - Queue management
  - Middleboxes
  - Tunneling
  - Interdomain routing
  - Network measurement
  - Traffic engineering
  - DNS and CDN
  - Network security concepts
  - Modern networking paradigms: SDN, ICN, CCN, and NDN

PS: Course contents may vary depending on the interest and response from the students

# Projects and assignments

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- Students are expected to work on multiple learning-oriented projects and assignments
  - Paper review: Research-oriented **group** project
  - ~~○ Mini project: Programming-oriented **group** project~~
  - Individual assignments (if any)
- Group information
  - Team information via Office Forms (get your **group's ID**)
    - <https://forms.office.com/r/UCV98tzUNY>
    - Deadline: **August 15, 2022**
  - Project information via Office Forms
    - <https://forms.office.com/r/MfVQL9yNAq>
    - Deadline: **August 31, 2022**

# Projects and assignments

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- Paper review

- Select a paper published in the last **two** years from a **top** computer networking conference
- Prepare
  - A. A LaTeX **report** (single-column, 10pts)
    1. A summary of the paper (max 2 pages)
    2. Major critiques on assumptions, technical approach, analysis, and/or results (no page limit)
    3. Suggestions for improvements/extensions (no page limit)
  - B. A **self-explanatory** Beamer **presentation** (max 20 slides)
- Final submission format: *pdf*
  - Named as *GroupID\_RollNoA\_RollNoB\_...\_RollNoZ.pdf*

# Projects and assignments

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- Paper review
  - Report submission via **TurnItIn**
    - ClassID: **35264268**
    - Enrollment Key: **2223\_ACN\_KT**
    - Deadline: **October 15, 2022**
    - Plagiarism must be **< 30%** | Else complete disqualification
  - Presentation submission via **Dropbox** file request
    - <https://www.dropbox.com/request/Ge7qPi1oM4uq2SiWnz5p>
    - Deadline: **October 15, 2022**
  - Formats
    - Report: [CiaoAnkit.github.io/files/Template\\_LaTeX\\_Rep.zip](https://github.com/CiaoAnkit/files/blob/main/Template_LaTeX_Rep.zip)
    - Presentation: [CiaoAnkit.github.io/files/Template\\_Beamer\\_Pres.zip](https://github.com/CiaoAnkit/files/blob/main/Template_Beamer_Pres.zip)



# Grading, examinations, and policies

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- Grading
  - Relative grading
  - Final grade set: {A, A-, B, B-, C, C-, D, F} | No 'P' grade possible
- Examinations & marks distributions
  - Assignments, projects : 30%
  - Mid-term exams, quizzes : 30%
  - End-term exam : 40%
- Policies
  - Do and submit your own original work
  - Cheating, plagiarism, and academic dishonesty will carry consequences

# Textbooks and references

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- There is no single textbook that can cover entire course material, some good references to start are given below (most of them are available on the Internet)
  1. L. L. Peterson and B. S. Davie. "Computer Networks: A Systems Approach."
  2. J. F. Kurose and K. W. Ross. "Computer Networking: A Top-Down Approach."
  3. J. Day. "Patterns in Network Architecture: A Return to Fundamentals."
  4. Research papers.

# Setting expectations

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- Don't expect 24x7 answers
  - Instructors are not on duty 24x7
    - Don't expect response before next business day
    - Queries over weekend should never expect fast responses
      - Be happy with something before Monday
- Try to figure out yourself
  - Students should answer each other; start your assignments early!
- Forums are not for debugging
  - Utilize right venue: Go to TA office hours
  - Send detailed Q's/bug reports
    - Not *"no idea what's wrong"*



How many bits in a byte?

- “Finally, prioritize things!”

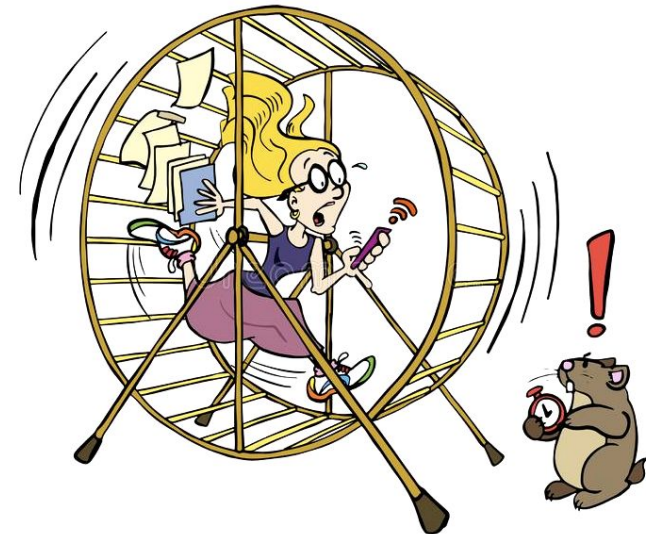
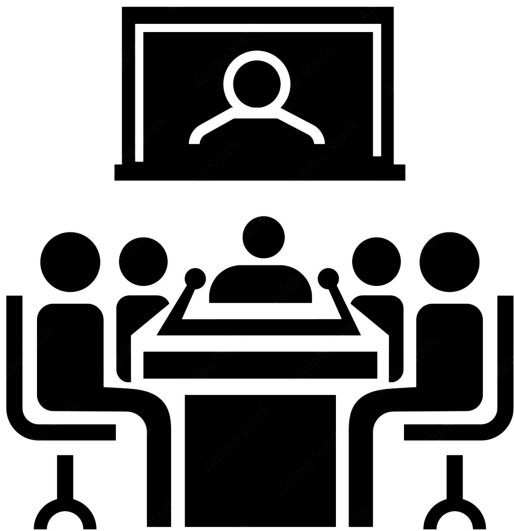
## WHAT TO DO WHEN YOU'RE OVERWHELMED WITH WORK



# Other important activities

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- Participate in our user studies and events
  - Details will be shared soon



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Good luck.  
Thank you!