

## Project Planning Milestone 2

**Deadline: 12/5/2022**

For each paper in your group folder:

Write the problem formulation of the papers **objectives+ constraints+ decision variables if found**

For the variables of the problem formulation use the following **variables if valid if not leave their variable as is**

Symbol	Quantity
$K$	Set of users $k$
$W$	Set of Possible interfering users $w$
$H$	Set of RRHs $h$
$Z$	Set of Zones $z$
$P_{k,h,r,z}$	Processing power of Resource Block $r$ allocated to user $k$ in RRH $h$ in zone $z$
$P^T$	Power Transmitted per PRB
$G^T$	Gain Transmitted
$G^R$	Gain Received
$f$	Carrier Frequency
$n$	Path loss exponent
$d_{k,h}$	Euclidean distance between user and RRH
$\lambda$	Wave length
$d_{k,h}^{eq}$	Equivalent user distance after PRB assignment
$\hat{R}$	Maximum number of Resource Blocks $r$ in RRH $h$
$\check{Q}_k$	Minimum required rate for each user $k$
$SNR^{eq}$	Equivalent SNR of a user
$Q_k$	SINR computation for each user $k$ from all assigned PRBs and all RRHs.
$I_k$	Interference computed for user $k$ from possible interfering user $w$ sharing the same PRB $r$
$N_r$	Added noise per PRB $r$
$S_{k,h,r,z}$	Downlink power received for user $k$ from assigned PRB $r$ from RRH $h$
$S_{k,h,r,z}^{eq}$	Equivalent downlink power received for user $k$ from assigned PRB $r$ from RRH $h$ after interference.

\*\* for example if their set of users is called 'U' replace it with 'K' etc

You are required to submit a presentation with a problem formulation. Stating clearly in sentences the objective e.g: minimize/maximize and the constraints along each equation.

If you have any questions please send me an email

Submission: submit the presentation inside your group folder in the following drive

[https://drive.google.com/drive/folders/19Bg6QTgo2TIYrz\\_C0rM6jywQkUZf7Eq9?usp=sharing](https://drive.google.com/drive/folders/19Bg6QTgo2TIYrz_C0rM6jywQkUZf7Eq9?usp=sharing)