# **Weekly Planner for Interns (editing continued)**

Mentors will lead a weekly group meeting with their students. These sessions are an opportunity for students to check in and get support from you and their peers and generally develop skills for graduate school and beyond alongside the project development. They should place a heavy emphasis on the development of science communication and presentation skills. Ideas for sessions include:

* science policy and ethics discussions
* journal clubs
* chalk-talks/three-minute thesis type presentations for journal clubs
* abstract peer-editing sessions

**Weekly Group Meetings** Tuesday, 30 minutes, 11:00 am-11:30 am ET

## **Week 1: 5/16**

Meet & Greet - intros of interns, mentors, orientation & summer project theme

## **Week 2: 5/23**

* Meet and greet continued
* **ATOM overview** presentation (by **Titli** – **Monday** )
  + General overview of ATOM (slides)

## **Week 3: 5/30**

ML Basics (Tuesday – Titli present slides, Sean – notebook)

AMPL overview (Wednesday – Titli slides, Sean notebook)

General Project Outline (Titli+Sean 1hr presentation - Tuesday)

* + - Data curation
    - Model Training
    - Prediction on Test Data
    - Visualization
* **Machine Learning Basics** presentation **( Sean – Tuesday )**
* **AMPL Overview** presentation (by **Titli** - **Wednesday**)
* **AMPL tutorial** (by **Sean** – **Tuesday???**) - walk them through a Colab notebook and explain each how to use AMPL modules for data curation, model training and validation.
* They can explore ATOM and AMPL
* Continue exploring AMPL
* **MoDaC Tutorial** **(by ??? - Monday)** – create account and how to download data from MoDaC, explore data, format of models and data etc. + basics of MoDaC
* **Database walkthrough** – PubChem, ChemBL etc. + machine learning ready **data format** overview
* **Individual project Overview** 
  + MoDaC Project – Curate data and train AMPL models (Ryan will provide list of papers)
  + Flurophore Project
* Journal Club Example and Signup

**Journal Survey tasks:**

* Students have two choices:

1. Explore papers on Drug Discovery or,
2. Select from above mentioned projects – MoDaC Safety Screen Targets are of our interest.

**Goal –** Get to know backgrounds for the research project, learn how to read a paper, and if they can add some more compounds for the specific target in the selected project. They will also learn data preparation. Once they select a paper, they should be able to collect data mentioned in the paper, learn data format and sources, curate and analyze them to prepare for machine learning.

* Select papers - Presenters send papers to Titli/Sean by the end of the week.
  + They should explore at least three papers,
  + We can provide them some background papers

## **Week 4: 6/6**

* Journal Club continued – Students are expected to
  + **write general abstract for each paper** they went through and have a **short presentation** based on their understanding.
  + **Select one paper** –
    - Brief **presentation** on **method** of the selected paper
    - **data collection** and **preparation** starts
* Data Preprocessing using AMPL (intro to pandas)
  + Create jupyter notebook – read csv files, manipulate dataframes, analyze data
* Data Visualization (intro to seaborn / matplotlib **which one??)**

## **Week 5: 6/13**

* Presentation by Titli – Which models and featurizer to choose
* Jupyter notebook - Model Training using AMPL (intro to tensorflow etc.)

**Week 6: 6/20**

* Model Training using AMPL continued – show and compare results
* Overview of scientific poster format
* **Project Poster** **Abstract Drafts Due by 6/??? @ 5pm EST**

**Week 7: 6/27**

Ad-hoc seminar by Pinyi (change)

**Final Abstracts Due 7/??? @ 5pm EST**

**Week 8: 7/4**

Ad-hoc seminar by Stewart, Susan (change with details)

Overview of final presentation format

**Week 9: 7/11**

Everyone presents background slides/methods slides

**Presentation+Report Drafts Due by 7/??? @ 5pm EST**

**Week 10: 7/18**

Practice final presentations - two 60-minute sessions this week

**Final Presentation+Reports Due 7/??? @ 5pm EST**

**Week 11: 7/25**

**Tentative - Poster session this week – in the scope of Conference (if satisfactory results)??**

**Oral presentations (20 mins – 1hr in total) on Thursday/Friday**

* **FNL Leadership (FNL Management includes CEO of FNL) - need to be scheduled (invite ATOM Tech Team)**
* **Two / one talk?**