

May Institute on computation and statistics for mass spectrometry and proteomics

April 27, 9:00am - April 28, 5:00pm, 2026. **Quantitative proteomics with Skyline**

Venue:

Northeastern University main campus, Building and Rooms TBD. Please see the [annotated map](#).

Lead instructors:

[Brendan MacLean](#), [Lindsay Pino](#), [Susan Abbatiello](#)

Description:

This 2.5 day short course will walk through the process of designing, developing, and statistically evaluating LC-MS methods for quantitative proteomics. Topics covered will include an introduction into the basic principles of quantitative proteomics ranging from targeted over data dependent to data independent acquisition, method optimization, optimal peptide selection for targeted proteins, considerations regarding standards and experiment validation, PTMs and phosphosite localization. Case studies and tutorials will be provided for hands-on participation with open-source software [Skyline](#).

Preparation:

- [Install Skyline from the web](#), or the installer on the course flash drive.
- Download course data to your computer from the flash drive, or [from the web](#).
- Bring your own computer capable of loading externally provided materials/datasets and connecting to wifi. (Often a limitation for industry participants using their work computers.)

Target Audience and Prerequisites:

Target audience are experimental scientists with experience in proteomic research. We also welcome computational scientists interested in working with raw mass spectrometric data.

Course materials:

[Quantitative Proteomics with Skyline](#)

Tentative schedule

Monday, April 27, 2026

9:00 a.m. **Lecture: Introduction to quantitative proteomics**

10:30 a.m. Refreshments

11:00 a.m. **Lecture: Introduction to Skyline (Brendan)**

11:45 a.m. **Hands-on: First-steps introduction in using Skyline for targeted mass spectrometry (Lindsay)**

12:30 p.m. Lunch on your own

1:30 p.m. **Tutorial: DDA, DIA and PRM data analysis in Skyline (Brendan)**

3:00 p.m. Refreshments

3:30 p.m. **Tutorial: DDA, DIA and PRM data analysis in Skyline (Brendan)**

5:00 p.m. Q&A and adjourn

Tuesday, April 28th, 2026

9:00 a.m. **Lecture: Introduction into DIA data acquisition and data analysis tools (Lindsay)**

10:30 a.m. Refreshments

11:00 a.m. **Hands-on: Retention time prediction with iRT**

12:30 p.m. Lunch on your own

1:30 p.m. **Lecture: System Suitability**

2:30 p.m. **Hands-On: Panorama (Lindsay)**

3:00 p.m. Refreshments

3:30 p.m. Lecture/Hands-on: Considerations for PTMs, Histone modifications

4:30 p.m. **Review: Kahoot (Lindsay)**

5:00 p.m. Course Reviews, Wrap-up and adjourn

Link to participant lunch order pickup

If you would like us to pick up your prepaid lunch order from TBD, fill this form: TBD

Course evaluation

Please help us improve the program in the future by filling in this form: TBD