

Abbreviated Draft Syllabus

MEDI 502: Translational Science in the COVID-19 Pandemic — Accelerating and Enhancing Our Response Across Preclinical, Clinical and Population Health Research

Fall 2021 (Oct. 25–Dec. 10, 2021)

Course Learning Objectives

- Identify key translational science challenges in responding to the COVID-19 pandemic.
- Identify effective translational science approaches NCATS has used to address multiple aspects of the COVID-19 pandemic that span preclinical, clinical and public health translational research.
- Explain how the translational science approaches NCATS used in the context of a variety of projects related to COVID-19 could be applied broadly to research focused on other diseases and conditions.
- Reflect on the translational science principles highlighted throughout the course and how these relate to one's own (current or future) work and career sector.
- Learn about the partnerships and collaborations needed to advance translational research, as well as legal approaches that help establish effective partnerships.

Week 1 (Oct. 25): Overview of course design, translational science overview and translational science challenges addressed during the response to COVID-19, as illustrated by initiatives highlighted during the course

Orientation Lecture: Introduction to MEDI 502 Translational Science in the COVID-19 Pandemic — Accelerating and Enhancing Our Response Across Preclinical, Clinical and Population Health Research ([Jessica Faupel-Badger](#))

See email for an invitation to complete the pre-course survey.

Lecture 1a: Translational Science: Maximizing the Success of Translational Research ([Joni Rutter](#))

Lecture 1b: Translational Science Challenges Addressed During the Biomedical Response to the COVID-19 Pandemic ([Joni Rutter](#))

Additional Recommended Resources: NIH videocast lectures focused on SARS-CoV-2 and the response to the COVID-19 pandemic

- [The Biomedical Research Response to COVID-19: A view from NIAID](#) (Hillary Marston)
- [Demystifying Medicine: COVID-19, NIH and the Year That Was](#) (Francis Collins)
- [Lessons Learned from COVID-19: A “Fireside Chat” with Dr. Anthony Fauci](#) (Anthony Fauci)

Assignments: Introduction assignment, discussion board assignment, assigned reading and submitting questions for office hours.

Week 2 (Nov. 1): Translational Science in the COVID-19 Pandemic — Preclinical Research and Drug Repurposing

Lecture 2a: Leveraging NCATS' Intramural Resources in the Early Translation Branch to Advance COVID-19 Research ([Matthew Hall](#))

Lecture 2b: Overview of the [NCATS OpenData Portal](#) (Kyle Brimacombe)

Lecture 2c: Overview of [CURE ID](#) ([Timothy Sheils](#))

Assignments: 2-minute paper, assigned reading and submitting questions for office hours.

Week 3 (Nov. 8): Translational Science in the COVID-19 Pandemic — Clinical Research Examples

Lecture 3a: Overview of NCATS' Clinical and Translational Science Awards (CTSA) Program, Trial Innovation Network and Recruitment Innovation Network ([Michael Kurilla](#))

Lecture 3b: Overview of the NIH Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV) Program ([Stacey Adam](#))

Lecture 3c: NCATS' Involvement in Convalescent Plasma Clinical Trials, ACTIV-1 and ACTIV-6 ([Sarah Dunsmore](#))

Assignments: Discussion board assignment, assigned reading and submitting questions for office hours.

Week 4 (Nov. 15): Translational Science in the COVID-19 Pandemic — Leveraging and Coordinating Preexisting Research Resources for Rapid Development and Implementation of Large-Scale National Research Studies

Lecture 4a: Overview of the [National COVID Cohort Collaborative \(N3C\)](#) (NCATS Staff TBD)

Lecture 4b: Research on COVID-19: Is there an app for that? (Emphasis on telehealth and long COVID/post-acute sequelae SARS-CoV-2 infection [PASC]) ([Audie Atienza](#))

Lecture 4c: LIVE Q&A with speakers at the end of this week

LIVE office hours: Lecturers will answer questions submitted in advance and reserve time for a few live questions. More information will be forthcoming, including information on how to join live or view the recording.

Assignments: Mini-quiz, 2-minute paper, assigned reading and submitting questions for speakers/office hours.

Week 5 (Nov. 22): Translational Science in the COVID-19 Pandemic – Collaborations and Health Disparities

Lecture 5a: Developing COVID-19 Collaborations ([Ami Gadhia](#))

Lecture 5b: Examination into the Impact of the COVID-19 Pandemic on Non-COVID-Related Research and Patient Care. ([Tiina Urv](#))

Additional Recommended Resources: NIH Videocast Lecture — [Vivek Murthy Distinguished Lecture: Addressing COVID-19 Health Disparities, Root Causes, Mental Health Impacts, Lessons Learned and Future Opportunities](#) (Vivek Murthy)

Assignments: Discussion board assignment, assigned reading and submitting questions for office hours.

Week 6 (Nov. 29): Translational Science in the COVID-19 Pandemic — Population Health

Lecture 6a: Serosurvey: Intramural and Extramural Collaborations and Sharing of Data (Carlene Klumpp-Thomas)

Lecture 6b: Overview of the NIH [Rapid Acceleration of Diagnostics Radical](#) (RADx-rad) Initiative ([Danilo Tagle](#))

Lecture 6c: NIH [Community Engagement Alliance](#) (CEAL): Overview of NCATS' Involvement in COVID-19 Community Engagement Efforts ([Sanae ElShourbagy Ferreira](#))

Assignments: 2-minute paper, assigned reading and submitting questions for office hours.

Week 7 (Dec. 6): Regulated Clinical Trials and Course Wrap-Up

See email for an invitation to complete the post-course survey.

Lecture 7a: Future Directions — [Antiviral Program for Pandemics](#) ([Matthew Hall](#))

Lecture 7b: LIVE Q&A with speakers at the end of this week

Assignments: Discussion board, mini-quiz and assigned reading.