

Abbreviated Draft Syllabus

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

Summer 2022 (June 15–Aug. 2, 2022)

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: 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: Translational Science in the COVID-19 Pandemic — Preclinical Research and Drug Repurposing

Lecture 2a: Collaborative Discovery at the NCATS Early Translation Branch (ETB) (The Story Before COVID) ([Matthew Hall](#))

Lecture 2b: COVID-19: The ETB Response (Pivoting to COVID) ([Matthew Hall](#))

Lecture 2c: [NCATS OpenData Portal](#) (Kyle Brimacombe)

Lecture 2d: [CURE ID](#) — A Mobile Application to Capture Novel Uses of Existing Drugs in the Era of COVID-19 ([Timothy Sheils](#))

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

Week 3: Translational Science in the COVID-19 Pandemic — Clinical Research Examples

Lecture 3a: Clinical Science and COVID-19 (NCATS Clinical and Translational Science Awards Program/Trial Innovation Network/Recruitment Innovation Network) ([Michael Kurilla](#))

Lecture 3b: The NIH Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV) Public–Private Partnership ([Stacey Adam](#))

Lecture 3c: NCATS' Involvement in COVID-19 Clinical Trials (ACTIV-1, ACTIV-6 and Convalescent Plasma) ([Sarah Dunsmore](#))

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

Week 4: 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: The [National COVID Cohort Collaborative \(N3C\)](#) ([Kenneth Gersing](#) and [Penny Burgoon](#))

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

Week 5: Translational Science in the COVID-19 Pandemic — Collaborations and Health Disparities

Lecture 5a: NCATS Office of Strategic Alliances and Partnerships in the Time of COVID-19 ([Ami Gadhia](#))

Lecture 5b: Rare Diseases Clinical Research Network (RDCRN) — Rare Diseases Patient COVID Survey ([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](#)

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

Week 6: Translational Science in the COVID-19 Pandemic — Population Health

Lecture 6a: The Trans-NIH COVID-19 Serosurvey (TBD)

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

Lecture 6c: Community Engagement: Collaborative Translational Science Approaches Essential to an Effective COVID Response ([Sanae ElShourbagy Ferreira](#))

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

Week 7: Future Directions 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: Course Wrap-Up ([Jessica Faupel-Badger](#))

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

Assignments: Discussion board assignment and assigned reading.