

## NoCovid Strategy of TU Dortmund University (as of 2 March 2021)

### Summary

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In the 2021 summer semester, TU Dortmund University aims to gradually ramp up essential **classroom teaching** so that students can progress with their studies. In this context, it intends to offer Covid-19 testing in order, on the one hand, to protect its members from infection. On the other hand, it would like to contribute in so doing to controlling the spread of the virus and to avoiding a further lockdown.

The objective pursued by TU Dortmund University with its **testing scheme** is to allow essential in-person classes to continue, even in the event of a rising incidence rate and stricter protection measures elsewhere. In addition, it aims to become a “**green zone**” in line with the concept of the NoCovid initiative. Using this document as a basis, TU Dortmund University would like to enter a dialogue with the Federal State of North Rhine-Westphalia and the City of Dortmund on this idea.

### Classroom teaching

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**Classroom teaching:** Over 33,000 students are enrolled at TU Dortmund University. According to an initial estimate, about **8,000** of these students need to take courses that depend on special rooms and equipment and cannot take place off-campus, including laboratory and workshop classes in the natural and engineering sciences, but also practical tutorials in music, art, sport or journalism.

**Legal framework:** At the present time, due to the current **Coronavirus Protection Ordinance** and the General Ruling on the Operation of Universities<sup>1</sup>, such in-person classes are only permitted in North Rhine-Westphalia by way of exception if postponing them would result in a “grave disadvantage” for students. Considered a grave disadvantage is, above all, a “significant delay” to study progress, which, in the view of TU Dortmund University, is the case if one or several semesters are lost. Below an incidence rate of 50, local authorities in NRW can, at the present time, lift individual measures of the Coronavirus Protection Ordinance in consultation with North Rhine-Westphalia’s Ministry of Labor, Health and Social Affairs<sup>2</sup>. The **ControlCOVID**<sup>3</sup> strategy of the Robert Koch Institute provides for restricted on campus operations at universities below an incidence rate of 50. In its 5<sup>th</sup> Statement, the Covid-19 Expert Panel of North Rhine-Westphalia’s government recommended that the easing of restrictions should not focus on sectors and dates but instead on protection concepts that include, in addition to the already established hygiene measures, a testing strategy and digital solutions for traceability<sup>4</sup>.

The federal and state governments see “an opportunity that through ... a testing program in conjunction with an improved traceability of contacts ... opening steps will also be possible at higher 7-day **incidences with more than 50** new infections per 100,000 inhabitants.”<sup>5</sup> For example, starting 22 March, the phased plan allows cinemas and theaters to be opened at incidences of 50 to 100 with current results of a rapid test.<sup>6</sup>

**Phased plan:** TU Dortmund University would like to test how essential on-site operations at a medium-sized university can be safeguarded with the help of testing. To do so, it aims to gradually expand the range of in-person classes, taking social distancing rules and hygiene standards into account: In March, those courses held in line with the current rule on exceptions will be accompanied by testing. Here, only a few hundred people are expected.

Depending on scalability, further essential in-person classes will be added in April, until finally several thousand people could be involved in the testing strategy in the summer.

**Traceability:** TU Dortmund University has already ensured special traceability in its teaching operations since the 2020/21 winter semester by means of a digital system that allows students to check in and out of classes on a **seat-specific** basis. TU Dortmund University is willing to connect to a technical platform which, with the involvement of public health departments, guarantees the tracking of infection chains, as recommended by the Covid-19 Expert Panel of North Rhine-Westphalia's government<sup>7</sup>. This might be possible with the **Luca app**.

**Public transport:** The concept must take into account that TU Dortmund University is a **commuter university**: Just over half of all students come from Dortmund (35%) or a neighboring town/district (Unna: 8%, Bochum: 6%, Ennepe-Ruhr: 4%, Hagen: 2%); the remaining 45% live elsewhere. According to the 21<sup>st</sup> Social Survey, in the 2016 summer semester around 70% of TU students used public transport to travel to the campus. The university will schedule in-person classes so that traveling during the rush hour is not necessary.

## Testing Scheme

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TU Dortmund University wants to offer all students and staff who need to be on campus in person the opportunity to take a Covid-19 test once or twice a week. In principle, two strategies are conceivable: Pooled PCR tests and antigen tests, ideally self-tests.

**PCR tests:** In mass testing, pooling samples makes sense for reasons of efficiency. If a pooled test is positive, individual B samples are then analyzed. If the incidence rate is low, this occurs only rarely, so that with an incidence rate of 50, for example, analysis work is reduced by a factor of 9.5-9.9 by pooling ten samples. The persons to be tested would provide two samples directly. While for most PCR tests samples must be taken by medical staff, other tests are meanwhile available where laypersons can take their own samples<sup>8</sup>. A positive PCR test result means compulsory quarantine.

**Antigen tests:** Antigen tests produce the result immediately; the first self-tests have already been approved. At the present time, a positive antigen test result must be double-checked with a PCR test in order to detect false positives. The degree of specificity of antigen tests varies, but about 60 of the tests evaluated achieve an accuracy rate of 99.7% or higher<sup>9</sup>. These include the first six self-tests approved by the Federal Institute for Drugs and Medical Devices<sup>10</sup>. This means that at an incidence rate of 50, there are between zero (100.0%) and six (99.7%) false positive results per case of infection, depending on the test's specificity. In the event of a positive result, quarantine is compulsory until a negative PCR test result is presented, meaning that the persons concerned are no longer allowed to enter TU Dortmund University's campus.

**Testing concept:** TU Dortmund University is developing a testing concept which, in particular, sets out how and where testing will be done and how the materials will be kept. Which type of test to use will be decided on the basis of availability and scalability. Premises for test centers would be available on campus, including two well-ventilated tents that could be used in a one-way system.

**Reporting channels:** TU Dortmund University is contracting a clinical laboratory with the PCR tests, which reports the result to the person tested as well as to the public health department. A positive result means quarantine. TU Dortmund University is working together with the public health departments in contact tracing. In the event of a positive case, the university can make provisions for voluntary self-isolation for an entire course

group. TU Dortmund University receives the test results as an aggregated and anonymized figure so that it can calculate its **own incidence rate**. This figure is also interesting insofar as, on a national average, the incidence rate in the 20-29 age group, which most students fall under, was about 50% higher than the overall incidence rate in Germany on an annual mean.<sup>11</sup>

**Capacity:** Thanks to the phased plan, in March only a capacity of a few hundred tests per week will initially be needed. In the highest phase of expansion, up to 20,000 tests per week would be required. If only PCR tests are used, this would mean approximately 2,000 (pooled) PCR tests per week; if a combination of antigen and PCR tests is used, this would be at most a few dozen (unpooled) PCR tests per week.

**Testing obligations:** The testing scheme starts on a **voluntary basis** for students and staff. It would be desirable if TU Dortmund University could make admission to in-person classes dependent on participation in the testing scheme as the number of students increases. At present, there is no legal framework for this. TU Dortmund University is investigating to what extent it could adjust its **internal rules**. In principle, however, the concept would be **robust** enough to withstand a certain number of “anti-testers”: If about 100 people were to slip through the net at an incidence rate of 50, the probability of them all being negative is 95%.

## Green Zone

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**NoCovid<sup>12</sup>** initiative, in which Professor Matthias Schneider from TU Dortmund University is also significantly involved, describes a zone as “green” when the local incidence rate is **<10** and no new infections of an unknown origin have occurred over a period of two weeks (**risk incidence = 0**). In this zone, a lot of restrictions can be eased.

**TU incidence rate:** To check its status, TU Dortmund University calculates its own incidence rate in cooperation with the provider of the PCR tests. The university is, however, unable to calculate the secondary criterion, risk incidence, without the help of the public health department. This is, however, irrelevant for the status as a green zone, since in a small population of up to 10,000 people, even a single case means an incidence rate of over 10.

**Maximum goal:** The objective pursued by TU Dortmund University with its testing concept is to become a “green zone”, so that proper campus life can return.

**Minimum goal:** The objective pursued by TU Dortmund University with its testing concept is to allow, by controlling the incidence rate on campus, essential in-person classes to continue, even in the event that the incidence rate elsewhere should rise and stricter protection measures become necessary (there). It is conceivable that this could be based on the thresholds specified by the Robert Koch Institute in its ControlCOVID Strategy.

**Political support:** TU Dortmund University is soliciting the support of the federal state and the city for its concept, which is to be further adapted and refined as circumstances change.

**Contact:**

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**Footnotes**

<sup>1</sup> General Ruling of 24.2.2021: [https://www.mags.nrw/sites/default/files/asset/document/210224\\_av\\_hochschulen.pdf](https://www.mags.nrw/sites/default/files/asset/document/210224_av_hochschulen.pdf)

<sup>2</sup> Corona Protection Ordinance of 5.3.2021: [https://www.mags.nrw/sites/default/files/asset/document/210308\\_coronaschvo\\_ab\\_09.03.2021\\_lesefassung.pdf](https://www.mags.nrw/sites/default/files/asset/document/210308_coronaschvo_ab_09.03.2021_lesefassung.pdf)

<sup>3</sup> ControlCOVID: [https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Downloads/Stufenplan.pdf?blob=publicationFile](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Downloads/Stufenplan.pdf?blob=publicationFile)

<sup>4</sup> 5<sup>th</sup> Statement by the Covid-19 Expert Panel: [https://www.land.nrw/sites/default/files/asset/document/5\\_stellungnahme\\_expertenrat\\_corona.pdf](https://www.land.nrw/sites/default/files/asset/document/5_stellungnahme_expertenrat_corona.pdf)

<sup>5</sup> Federal and State decision of 3.3.2021: <https://www.bundesregierung.de/resource/blob/997532/1872054/66dba48b5b63d8817615d11edaaed849/2021-03-03-mpk-data.pdf?download=1>

<sup>6</sup> Opening Strategy of 3.3.2021: <https://www.bundesregierung.de/breg-de/aktuelles/fuenf-oeffnungsschritte-1872120>

<sup>7</sup> 5<sup>th</sup> Statement by the Covid-19 Expert Panel: [https://www.land.nrw/sites/default/files/asset/document/5\\_stellungnahme\\_expertenrat\\_corona.pdf](https://www.land.nrw/sites/default/files/asset/document/5_stellungnahme_expertenrat_corona.pdf)

<sup>8</sup> "Popsicle Tests" in Solingen nursery schools: <https://www.solingen.de/de/aktuelles/pressemitteilung-2021-70-tk/>

<sup>9</sup> Antigen tests approved by the Federal Institute for Drugs and Medical Devices: <https://antigen-test.bfarm.de/ords/f?p=101:100:7396573413264::::&tz=1:00>

<sup>10</sup> Self-tests approved by the Federal Institute for Drugs and Medical Devices: [https://www.bfarm.de/DE/Medizinprodukte/Antigentests/\\_node.html](https://www.bfarm.de/DE/Medizinprodukte/Antigentests/_node.html)

<sup>11</sup> Incidence rate by age group: [https://www.rki.de/DE/Content/InfAZ/N/Neuartiges\\_Coronavirus/Daten/Altersverteilung.html](https://www.rki.de/DE/Content/InfAZ/N/Neuartiges_Coronavirus/Daten/Altersverteilung.html)

<sup>12</sup> NoCovid: <https://nocovid-europe.eu/>