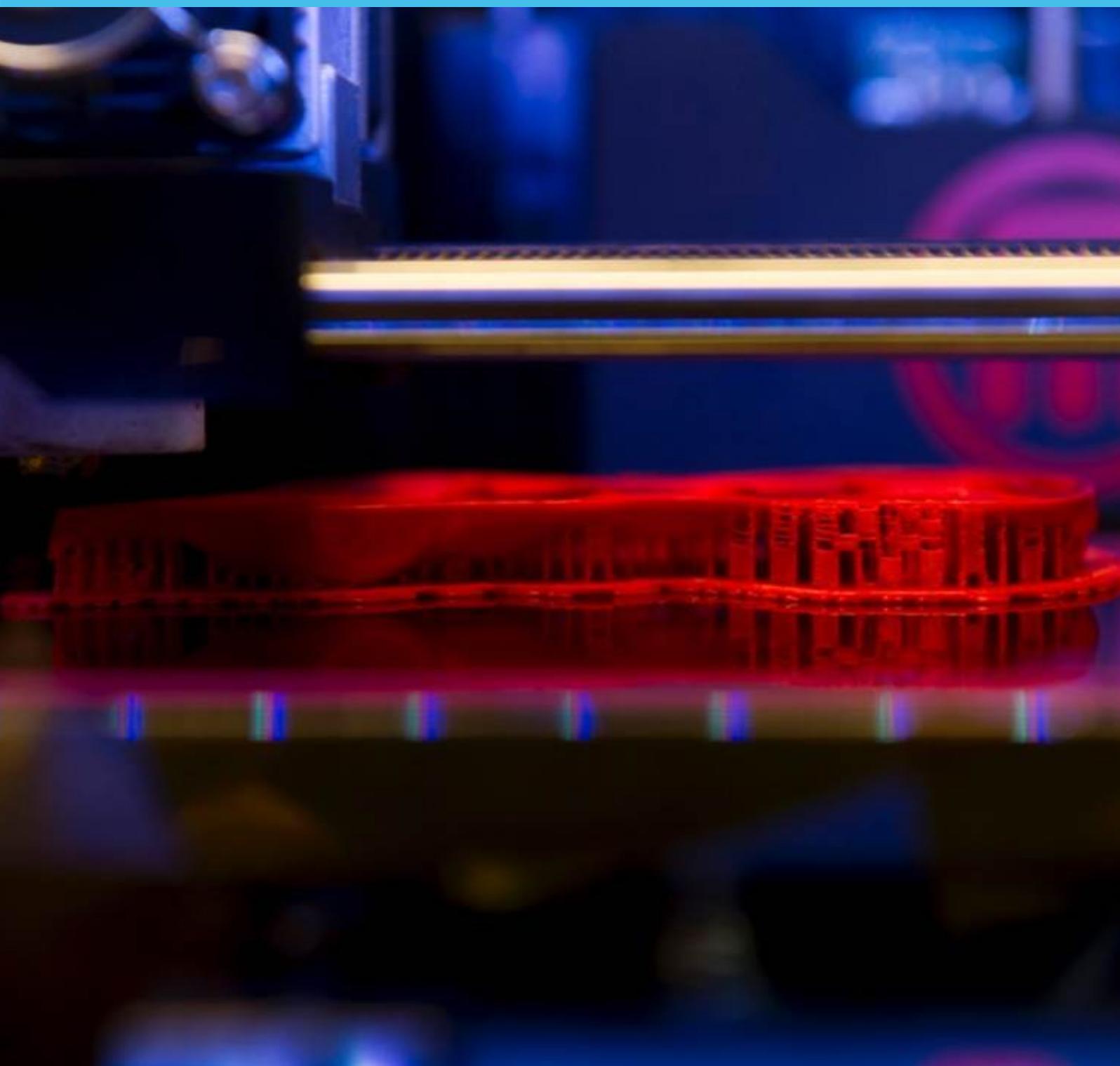


Regulation Matching & Selection Criteria and Procedure
BSc Computer Science and Engineering
Academic year 2021/2022



Preamble

The dean of the faculty of Electrical Engineering, Mathematics and Computer Science, having regard Article 3 of the [TU Delft Selection and Placement Regulations](#) and after having received advice from the Faculty Student Council on 10 September 2020, establishes the following Regulation Matching & Selection Criteria and Procedure for the bachelor programme Computer Science and Engineering 2021-2022.

1. General regulations

- 1.1. The execution of this regulation is appointed to the Committee Selection Computer Science and Engineering, hereafter referred to as the Committee.
- 1.2. The Executive Board of the TU Delft has set the maximum amount of students for the academic year 2021-2022 at 500, taking into account Article 9, Clause 3 of the TU Delft Selection and Placement Regulations.
- 1.3. The Committee will, in accordance with the GDPR, only communicate about the participation of a candidate with that particular candidate. Only in exceptional cases, like severe personal circumstances, will communication be allowed with parents and/or legal guardians.
- 1.4. Candidates who have been diagnosed with a learning disability and/or are experiencing extenuating circumstances can request extra time for the Cognitive Skills Tests, by contacting selection-bsc-cse@tudelft.nl. Requests need to be supported with documentation (e.g. a medical or psychological statement) and should be submitted before February 15th. As this concerns privileged information, these requests will be handled by the academic counsellors, who can consult the Committee if necessary.
- 1.5. All dates are listed as dd/mm/yyyy. Times in this regulation are in Central European Time (CET), Dutch local time.
- 1.6. The entire Matching & Selection procedure and communication about this procedure is in English. Candidates are required to answer all questions in English as the BSc Computer Science and Engineering is fully taught in English.

2. Participating in the matching and selection procedure

- 2.1. A candidate can only participate in the matching and selection procedure with a valid and fully *completed* registration request for the programme Computer Science and Engineering, via the Dutch national enrolment system for higher education entitled Studielink, before the deadline of January 15th.
- 2.2. Candidates with a non-Dutch education diploma (\neq VWO)¹, must also register in Osiris (osiaan.tudelft.nl) and submit a *complete* application package before the deadline of January 15th to enable them to participate in the matching and selection procedure.

¹ Candidates should have a [secondary school diploma equivalent](#) to the Dutch pre-University diploma (=VWO)

- 2.3. Participating in the matching and selection procedure or receiving a ranking number, does *not* automatically mean that a candidate meets the stated educational prerequisites for admission. Verifying entry requirements, such as prior education, is outside the scope of the Regulation Matching & Selection Criteria and Procedure as well as the matching and selection procedure. Information about the entry requirements can be found on the admissions pages of the [TU Delft website](#).
- 2.4. A candidate can only participate once per academic year. The results of the matching and selection procedure are only valid for that particular matching and selection procedure which selects candidates for the upcoming academic year.
- 2.5. A candidate may participate up to three times in the matching and selection procedure of the BSc programme Computer Science and Engineering. An active request for enrolment in Studielink after January 15th will count as a selection opportunity, even if a candidate does *not* participate *nor* completes the matching and selection procedure.
- 2.6. Candidates who have previously been enrolled in the Computer Science and Engineering programme, but who have discontinued their studies due to a negative BSA are only allowed to re-apply for this programme after 4 years. These candidates have to (re-) participate in the matching and selection procedure, before being able to be re-admitted.

3. Selection criteria

- 3.1. On the basis of the end terms of the programme the following three criteria have been distilled that form the basis for the selection for the bachelor Computer Science and Engineering:
 - 3.1.1. Mathematics
 - 3.1.2. Systematic Reasoning & Logical Thinking
 - 3.1.3. Algorithmic & Computational Thinking
- 3.2. Several steps are defined to select candidates, some of which are *not* necessarily linked to a single selection criterion, but are part of the matching and selection procedure.
- 3.3. It is assumed that at the time of the matching and selection procedure candidates will (almost) meet all admissions requirements. The skills and knowledge inherent from the admission requirements have been used as a starting point for the development of the tests.

4. Selection & Matching procedure

4.1. Selection General

- 4.1.1. The candidate is responsible to ensure that the email address used in the matching and selection procedure by the candidate is equivalent to the email address used for Studielink.
- 4.1.2. The candidate is responsible for checking messages in their inbox and spam folder during the entire matching and selection procedure.
- 4.1.3. Validating completion of the tests will be based on candidates' e-mail address.

- 4.1.4. All the assessments and tests have to be started and completed within the specified time frame.
- 4.1.5. The candidate is responsible for assuring a well-functioning internet connection.
- 4.1.6. In general the rule applies that the candidate will need to take the tests as under regular (Dutch) exam sittings, which means that they will need to take the tests individually and without other sources of information.
- 4.1.7. The following items are allowed to be used during the tests: a dictionary in book form, identification card or passport and blank paper in single sheets, pencils/pens.
- 4.1.8. A calculator is *not* allowed, *nor* is a calculator on a mobile device, neither a second computer.
- 4.1.9. Only candidates who have completed all three steps of the selection and matching procedure - consisting of the elements as listed in 4.2.1, 4.2.7 and 4.2.19 - within the stated time frames and before the deadlines in a meaningful way, will receive a ranking number.
- 4.1.10. Those who fail to complete all three steps in a meaningful way within the stated time frames and before the deadline will be excluded from the matching and selection procedure. Candidates will *not* receive a ranking number and will have used a selection opportunity. Excluded candidates will be informed by e-mail within six weeks after the test period has ended.
- 4.1.11. Candidates are required to report any issues encountered that might affect the outcome of their score within 48 hours after they have occurred and before the deadline of that respective assessment or test period (see [Annex 1](#) for the Timeline). Candidates who are taking the CST on campus are recommended to report any issues immediately to the invigilator. Issues, which might affect the outcome of the score and have been reported within 48 hours of occurring, that cannot be solved during the procedure have to be resubmitted as an objection after publication of the ranking numbers, in order to be dealt with.

4.2. Selection Method

4.2.1. Step 1 Non-Cognitive Skills Assessment (=NCSA)

The Non-Cognitive Skills Assessment consists of the following three elements:

- 4.2.1.1. Online Student Experience
 - 4.2.1.2. Motivation & Perseverance Questionnaire
 - 4.2.1.3. Group Work Questionnaire
- 4.2.2. The candidate receives an invitation for step 1 the Online Non-Cognitive Skills Assessment (=NCSA) one week before the start of the assessment period. See [Annex 1](#) for the Timeline.
- 4.2.3. The possible score that a candidate can get for each of the three elements of the online NCSA is 0 (did *not* fill out in a meaningful way) or 1 (filled out in a meaningful way). An answer is considered meaningful when it directly relates to the question

asked. All serious attempts are considered meaningful, not answering a question is considered not meaningful.

- 4.2.4. Candidates who fail to complete all three elements of the Non-Cognitive Skills Assessment (=NCSA) within the set timeframe in a meaningful way, will score a 0 and will be excluded from the matching and selection procedure.
- 4.2.5. All candidates who have completed all three elements of step 1 the online Non-Cognitive Skills Assessment (=NCSA) in a meaningful way will be invited at least one week before the start of the test and assessment period to participate in the next steps of the matching and selection procedure: the Cognitive Skills Tests and the Self-Reflection Assessment. See [Annex 1](#) for the Timeline.
- 4.2.6. Performance in the Non-Cognitive Skills Assessment (=NCSA) will *not* be used to determine the final ranking. Candidates are *not* expected to prepare for the NCSA.

4.2.7. Step 2 Cognitive Skills Tests (=CST)

The Cognitive Skills Tests consist of the following three elements:

- 4.2.7.1. Mathematics (40%)
- 4.2.7.2. Systematic Reasoning & Logical Thinking (20%)
- 4.2.7.3. Algorithmic & Computational Thinking (40%)
- 4.2.8. Mathematics and Algorithmic & Computational Thinking will each count for 40% of the final selection score. Systematic Reasoning & Logical Thinking will count for 20% of the final selection score.
- 4.2.9. For the calculation of the CST score a candidate can get 1 for a correct answered question or 0 for an incorrect answered question. If a question consists of sub-questions, a correct answered sub-question will be counted as an equal percentage of the amount of sub-questions of that question.
- 4.2.10. Candidates who fail to complete all three elements of the CST within the set timeframe will be excluded from the matching and selection procedure.
- 4.2.11. After having completed all three elements of step 2; the Cognitive Skills Tests, candidates can complete step 3; the online Self-Reflection Assessment, within the set timeframe and herewith finalize their matching and selection procedure.
- 4.2.12. Due to the consequences of the Covid-19 pandemic step 2, the Cognitive Skills Tests (CST), will be online and proctored, which means that candidates are “followed” online to check whether the test is completed under the correct conditions.
- 4.2.13. By taking the online proctored tests, candidates agree upon making and monitoring video recordings, keystrokes, and screenshots. An examiner will have access to this data to judge if the tests were completed according to the regulations. Collected data will only be used for this purpose. The collected data will be destroyed if it is clear whether the candidate is admitted or *not* and the objection period has ended.
- 4.2.14. Candidates can sign up for the available online CST slots. Before the 1st of February candidates will be informed how to sign up for the CST. Candidates who do not sign up

within the set timeframe, will be assigned a seat for one of the online CST options. If the amount of candidates exceeds the available seats for a specific day, seats will be randomly allocated among the candidates who choose this option.

- 4.2.15. Candidates can apply for the possibility to take the CST at the TU Delft campus, on condition that it is permitted by the Ministry of Health. Candidates who want to make use of this option need to send an email to selection-bsc-cse@tudelft.nl before the 12th of February 2021 13:59 CET. If during the course of the Matching and Selection procedure health restrictions from the government make it unfeasible to organise the CST on campus, candidates are responsible themselves for arranging a suitable environment to take the CST.
- 4.2.16. The Cognitive Skills Tests (CST) can only be taken once at any time before the stated deadline (see [Annex 1](#) for the Timeline). Once a candidate starts with the Cognitive Skills Tests they need to complete all three elements of the CST within the same exam (proctoring) session.
- 4.2.17. Candidates can go forward and backward within a test, but the order of the three tests has been set in the order as stated in 4.2.7. The sequence of the questions in the CST are designed in such a way that the questions become gradually more difficult, within all three elements of the CST, as the tests progress. Once a test is completed, a candidate progresses to the next test and cannot go back to the previous test.
- 4.2.18. The time for each of the three elements of the CST is limited. The maximum time per element is communicated beforehand. A counter showing the remaining time will be visible during the test.
- 4.2.19. **Step 3 Self-Reflection Assessment (=SRA)**
As a final step candidates will reflect on their application in the Self-Reflection Assessment.
- 4.2.20. The possible score that a candidate can get for the SRA is 0 (did *not* fill out in a meaningful way) or 1 (filled out in a meaningful way). An answer is considered meaningful when it directly relates to the question asked. All serious attempts are considered meaningful, not answering a question is considered not meaningful.
- 4.2.21. The SRA score is *not* included in the final score on which the ranking is based. However, when a candidate scores a 0 for step 3 SRA, this means that the candidate has *not* completed this part of the procedure and will therefore be excluded from the matching and selection procedure.
- 4.2.22. Candidates *cannot* prepare for the SRA.

4.3. Preparing for the Selection tests

4.3.1. Step 2a Cognitive Skills Tests (=CST) – Mathematics (40%)

This test will test the potential mathematical capacities. Candidates can prepare for Mathematics with the free [online pre-university calculus course](#) developed by the TU

Delft. The time for this element within the CST is limited to one hour, a counter showing the remaining time will be visible during the test.

4.3.2. Step 2b Cognitive Skills Tests (=CST) – Systematic Reasoning & Logical Thinking (20%)

This test will test the systematic reasoning and logical thinking capacities. Candidates can prepare for Systematic Reasoning & Logical Thinking with material that will be provided online at least two weeks before the start of the CST. The time for this element within the CST is limited to 45 minutes, a counter showing the remaining time will be visible during the test.

4.3.3. Step 2c Cognitive Skills Tests (=CST) – Algorithmic & Computational Thinking (40%)

This test will test the potential of candidates to solve puzzles, process-oriented thinking and their ability to come up with efficient solutions to real-world computational problems. Candidates *cannot* prepare for Algorithmic & Computational Thinking. The time for this element within the CST is limited to one hour, a counter showing the remaining time will be visible during the test.

4.3.4. All three elements of the CST combined will take a maximum of two hours and 45 minutes in total to complete.

5. Fraud

5.1. The Committee will ask the candidate to cooperate in collecting evidence, if a candidate is flagged with suspicious behaviour or is caught performing fraudulent behaviour. The suspected candidate will be interviewed and given the chance to respond in writing to the report of the Committee. During the investigation of the case, the candidate is allowed to finish the matching and selection procedure.

5.2. The Committee concludes whether fraud has been committed. Candidates who have committed fraud will be penalized, with the sanction varying from being awarded zero points on the specific section of the tests to exclusion from the entire matching and selection procedure, depending on the severity of the fraud. The decision about fraud and the corresponding sanction will be made by the Committee on behalf of the dean.

5.3. A candidate who is excluded on the basis of fraud, will be excluded from the matching and selection procedure of that particular year only. The candidate does *not* receive a ranking number and is considered to have used up a participation opportunity. A candidate can object to this decision.

6. Establishing the outcome of the matching and selection procedure and ranking

6.1. Each candidate must take part in all components of the matching and selection procedure in a meaningful way in order to qualify for the ranking number. If the candidate fails to take part in

one or more components, the candidate will be excluded from the procedure and will *not* receive a ranking number.

- 6.2. The obtained ranking number is only valid during the selection and admission procedure preceding that specific academic year. It is *not* possible to use your ranking number for later academic years if you de-register before the 1st of September, unless severe personal circumstances occur. If the latter is the case a candidate can submit a substantiated request for an exemption to selection-bsc-cse@tudelft.nl This request will be evaluated by the Committee.
- 6.3. The score of each element of the CST is determined by the number of correct answers. These individual scores will be converted to standardized z-scores before they are combined into a final score.
- 6.4. The ranking number of a candidate is determined by their final tests scores, which is based on the three elements as stated in Article 4.2.8. Their final tests scores are compared to other candidates, so-called z-scores. As a result there is no fixed pass or fail grade. Higher final tests scores result in better (=lower) ranking numbers. The candidate with the highest final score receives the lowest ranking number, the candidate with the second highest final score receives the next ranking number, et cetera.
- 6.5. If two or more candidates qualify for the same ranking number, the score on the mathematics element determines the ranking between these candidates. If this is not sufficient to obtain a ranking, the ranking number will be assigned by lot.
- 6.6. The ranking number will be ascertained by the Committee.

7. Announcement of ranking number and further procedure

- 7.1. Candidates who have completed the matching and selection procedure in a meaningful way will receive their ranking number on the 15th of April through Studielink.
- 7.2. Candidates will receive an overview of their tests scores as converted into standardized z-scores, after they have received their ranking number. No further feedback on the scores will be provided. For reasons of confidentiality and objectivity we will *not* communicate about the method and evaluation of the criteria, *nor* is it possible to review the tests or individual answers given. Candidates who would like more information regarding the compilation of their test scores can contact selection-bsc-cse@tudelft.nl
- 7.3. When a candidate is offered a place for the bachelor programme Computer Science and Engineering, the candidate has 14 days to accept this offer in Studielink. In case this offer is *not* accepted in Studielink within that time frame, the reserved spot will be made available for the next candidate with a ranking number who is waiting in line and hasn't received an offer yet.
- 7.4. Non-EU candidates that need a visa/residence permit in order to enter the Netherlands, can only be supported in their application procedure by the Contact Centre, when they are offered

a place before June 15th, as it is too late to successfully complete all required steps in the registration process after this date.

7.5. In case situations occur in which this Regulation does *not* provide, the Committee will decide, on behalf of the dean, which actions and/or measures to take.

8. Final provisions

This regulation has been established by the Dean of the faculty of Electrical Engineering, Mathematics and Computer Science of the TU Delft, on 29 September 2020, and can be cited as Regulation Matching & Selection Criteria and Procedure for the bachelor program Computer Science and Engineering. This regulation applies to the Matching & Selection procedure executed in the year 2020/2021 for placement in the academic year 2021/2022 in the bachelor program Computer Science and Engineering.

9. Annex 1 Timeline

