Hogeschool van Amsterdam

Generative AI in education:

rules and recommendations

Creating Tomorrow

Contents

How to use these rules and recommendations

Target audience

These rules and recommendations are meant for students, lecturer-researchers and other teaching staff, such as managers, advisers and support staff. The rules and recommendations provide assistance in using GenAI* in an innovative and responsible manner.

Difference between rules, recommendations and key principles

At AUAS, we want to take a responsible approach to using GenAI. This includes providing clarity on where the boundaries lie. **Rules** that set out the parameters to adhere to have been formulated about this subject.

In addition, there are **key principles**: these are issues we believe are important but cannot be properly formulated as a rule or as guidance.

Finally, we provide a set of **recommendations**: these set out what you need to take into account but allow for flexibility on how to do this in your own specific circumstances. We are taking this step as we want to harness the potential of GenAI in education as GenAI develops rapidly. This rapid evolution continues to introduce new opportunities as well as raises new questions. Not all questions regarding GenAI can be properly answered at this stage. The answers we do have do not always fit all the various situations. After all, each degree programme is different. All this requires flexibility for tailored solutions and room to learn and innovate.

GenAI

The rules and recommendations apply to all types of GenAI. GenAI stands for generative artificial intelligence. GenAI allows users to generate different types of output such as text, images, videos, audio, code, based on commands (prompts) provided. ChatGPT is one of the most well-known tools, but there are many others that offer different features, exist in different versions, are available as a paid or free service and are available from different providers.

Inclusive language and readability

In this document, we will frequently refer to the 'lecturer' or 'student' instead of he/she/they. Where the term 'lecturer' is used, we also mean lecturer-researchers and other teaching staff such as managers, advisers and support staff. The rules and recommendations usually apply to both students as well as lecturers. Where an aspect applies specifically to students or lecturers, this will be stated explicitly.

Findability

This document replaces the **Guidelines for Assessment and Graduation** and the **Guidelines on Security and Privacy**. We will continue to monitor rapid developments and update this document as required. Revised versions will always be distributed through programme managers and will be available on **Education with AI**, where you will be able to ask questions.

8 Rules

These are the rules you as a student, lecturer-researcher or member of the teaching staff (managers, advisers and support staff) must abide by. They set out the parameters within which GenAI can be used in an innovative and responsible manner.

1 Use of GenAI is permitted under certain conditions.
You may use GenAI for the time being* if you abide by the rules and take into account the recommendations set out in this document. You should always ask yourself whether GenAI adds value for the purpose you want to use it for. In addition, you should maintain a leading role in the work and only use GenAI as a tool.
**It may be that we will develop or manage AUAS tools inter alia for security reasons at a later date, in which case an update will be issued.*

2 You will be individually responsible at all times
You are responsible for the data you enter into GenAI (find out more here) and for the results (output) GenAI produces (find out more here). As a student, you are always individually responsible for your own work (find out more here). As a lecturer, you are always individually responsible for providing feedback and assessment.

3 You should be transparent about the use of GenAI
Anyone using GenAI should always state this clearly in the product* for which GenAI has been used.
**this can be anything, for example: an assignment, a report, test, reflection, design, course material, feedback.*
Please state
- that GenAI was used and specify which tool and version
- for which purpose GenAI was used (e.g. brainstorming, translation, writing assistant)
- how GenAI was used (e.g.: what prompts you gave, how you handled the output, how you verified the accuracy of the output)

4 The privacy and security of data should be handled with care
Do not provide any confidential data. This includes
- personal data: anything from which you can directly or indirectly deduce the identity of the person, such as: their name, date of birth, (email) address, phone number, student ID number.
- special categories of personal data: this includes data relating to someone's political preferences or health.
- do not provide photos of individuals without their consent
- sensitive information about (internship host) companies and institutions.
- research data that may be sensitive or traceable to individuals/companies/institutions.

In addition: do not enter any copyrighted material.

If you have any doubts as to whether you are allowed to enter data into GenAI, please get consent from the data subject[1]. Students can discuss their doubts with their lecturer. If you cannot come to an agreement together, the lecturer will be able to contact the privacy officer of the faculty or department. Lecturers will be able to contact these officers through the **AZ list**. Lecturers will be able to find out more about privacy at AUAS **here**.

[1] When seeking consent from data subjects, consent must take place on a voluntary, informed, specific and unambiguous basis.

5 No one is obliged to use GenAI

It is up to you to choose whether to use GenAI and which tools to use. Lecturers integrating GenAI into teaching and/or assessment may ask but not require students to use GenAI. This applies to all forms of GenAI. The reason no one can be obliged is that no tool has yet been assessed as sufficiently secure by AUAS. Please note (for students): even if you are not required to use GenAI, it is useful to be aware of the fact that being able to useGenAI is going to be an important skill in a lot of (future) jobs and that it can help you in your learning process during your studies.

6 GenAI in assessment should only be allowed under strict conditions

Condition 1: GenAI may contribute to but not take over the learning process; students must achieve the learning objectives themselves and be able to demonstrate this. Use of GenAI is therefore only permitted in assessments if students can achieve the **learning objectives** independently with the use of GenAI. Condition 2: Whether students achieve the learning objectives, also known as **learning outcomes**, independently, should be readily ascertainable by lecturers. This decision will be made by the programme departments and teaching teams themselves. Condition 3: Students should be transparent about the use of GenAI (rule 3).

7 Provide clear communication about use of GenAI in assessments

The test instructions* will state whether GenAI is permitted, and if so in what way GenAI may be used.

**Test instructions can take different forms within the various degree programmes, but will at least include written instructions for students on what is permitted.*

8 The human perspective is a decisive factor in relation to feedback and assessment of student work using GenAI

Lecturers are responsible for giving students feedback and assessing their work. The human perspective and expertise of the lecturer should always take precedence in such cases. Assessments must remain transparent and verifiable at all times. Students hold copyright in respect of their work, meaning that you cannot simply enter work from students into GenAI. If, as a lecturer, you nevertheless want to use GenAI as a tool to provide feedback and/or for assessment purposes, you should

- be transparent: you should make it clear to students in advance that you will be using GenAI for this purpose, how you will be using it and with which tool
- take into account any objections from students[2]

never enter data into GenAI that can be traced back to individuals or other confidential data.

As a lecturer, you remain fully responsible for your feedback/assessment. GenAI is fundamentally not made for assessment and is therefore not a valid assessment tool.

[2] This includes the rights of students and lecturers under the GDPR.


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SHOUT OUTS
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SHOUT OUTS

Direction and key principles

These are issues we believe are important but cannot be properly formulated as a rule or as guidance.

We are capitalising on the opportunities of GenAI in education because

- GenAI is part of **society and of the labour market** – both currently and in the future.
- lecturers can enhance their **teaching methods** using GenAI
- students can enhance their **learning** with GenAI

We embrace these opportunities. At the same time, we are aware of the **downsides**, which, for example, relate to security, privacy, diversity and sustainability considerations. We take **responsibility** and that means

we always put **people first** and see GenAI as a tool. It's a case of 'man and machine', with humans at the helm.

we **always verify the output of GenAI critically** for accuracy and completeness, e.g. by comparing it with reliable sources. Your own knowledge and critical thinking are essential to being able to make good use of GenAI.

we ensure a **safe** learning and working environment by using GenAI **openly, respectfully and with an awareness of privacy considerations**. We do not use GenAI in a way that may be offensive, inappropriate or misleading. Please be aware of the risks associated with using GenAI. For more information, please contact your faculty's privacy officer.

we critically review whether GenAI's output is **diverse and inclusive**, as the output may contain bias and discrimination.

we exercise due care in terms of what we input into GenAI because we are aware that GenAI learns based on our input.

we use GenAI purposefully in relation to **sustainability**. The energy and water consumption involved in training and using GenAI is significant. Sustainable use can be achieved, for example, by generating images (high energy consumption) only when this adds value.

GenAI is (primarily) made available by major providers with commercial interests. This is not always clear. We try to take an **independent view** in assessing whether the use of GenAI adds value to teaching and studying.

we recognise that there are ethical issues and concerns associated with using GenAI. An example of this is the way GenAI is trained and developed by employing underpaid 'click workers', under difficult working conditions. This is contrary to **human rights and values** such as respect, security and equality. This is yet another reason to be conscientious, critical users of GenAI.

GenAI – a deep-dive into the technology

Generative Artificial Intelligence (GenAI) is a form of AI capable of creating various forms of output such as text, graphics, moving images, audio and code based on specific commands (called prompts). This is done by using probability theory, where GenAI predicts the most likely output based on the specific input. The major GenAI models (such as GPT-4) have been trained on very large datasets of digital information, so the system has learnt to recognise and apply patterns using machine learning. The system also learns from the input and human assessment of the answers and can thus provide increasingly accurate output.

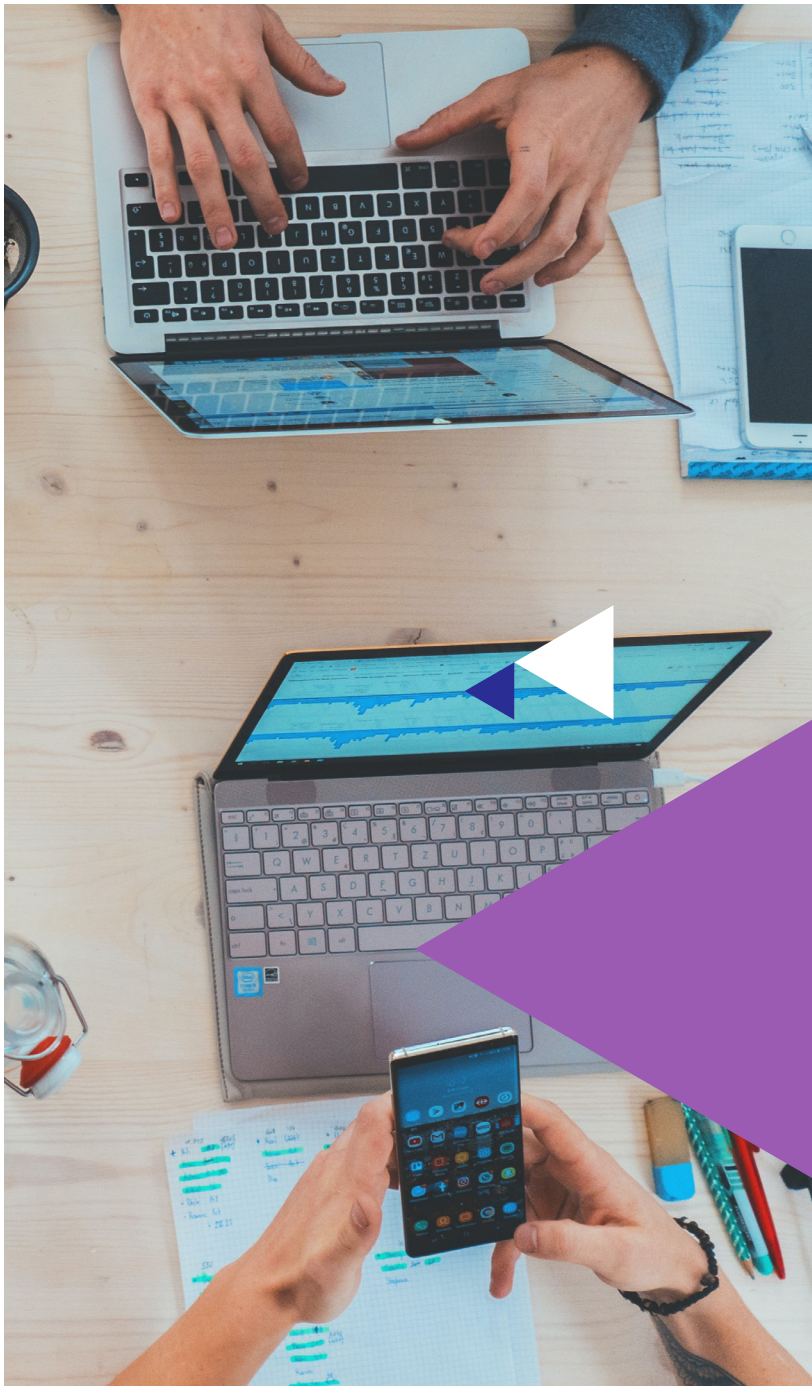
Since the launch of ChatGPT in November 2022, GenAI's offering has gained momentum. There are several commercial providers (such as OpenAI, Google and Adobe) and GenAI is increasingly becoming available in existing software packages(such as Microsoft Windows, Office, and Photoshop). In addition, other models are emerging based on open-source models and Surf is working with the Netherlands Organisation for Applied Scientific Research (TNO) on GPT-NL, a Dutch variant of GPT-3 but trained using Dutch data.

Because GenAI is trained using very large data sets and the algorithms are getting better and better, in many cases the output is difficult to distinguish from human work. In addition, the output is different each time, meaning that the use of GenAI cannot be properly recognised, for example, by a plagiarism detector.

Important: GenAI performs impressively but equally makes mistakes. Knowledge of the domain in which an answer is given is needed to properly assess the output.

What GenAI is not:

- GenAI is not human (even though the interaction seems very human)
- GenAI is not a replacement for humans (even if GenAI can take over certain human tasks)
- GenAI is not a reliable source of knowledge (even though its performance is impressive)
- GenAI is not intelligent because it is not underpinned by a knowledge system (but it can learn)



Recommendations - Education

These recommendations set out elements you need to take into account. They leave room for learning and innovation within specific circumstances. Please also consult the eight rules as well as the direction and key principles sections.

1. Output from GenAI may contain errors and biases or be incomplete. To use GenAI effectively, you need both smart prompts and critical assessment of the output. That requires (human) knowledge. **Knowledge in the curriculum** therefore does not become less important because of GenAI, but rather more important.

2. GenAI is not transparent enough about the **sources** and data with which the systems are trained. Particularly in the research domain, you should be clear about your sources and conduct extra checks.

3. The **learning objectives** are key. Students must eventually master the learning objectives independently. You must determine whether GenAI makes a meaningful contribution to achieving the learning objectives.

4. Stay informed. **Experiment** and help each other explore the possibilities of GenAI.

5. Our experiences, knowledge and skills in using GenAI will differ. These differences should be taken into account, for example, as a lecturer when assessing work involving GenAI.

6. It's not just about learning how GenAI works ('operation course') and what you can use it for ('application'). We also need to **become more aware** together and learn about what we believe constitutes responsible use when using GenAI. Discussing dilemmas, doubts, questions, uncertainties and challenges is beneficial in this regard.

7. As a student, you can use GenAI to **take a smart approach to studying**. This includes using GenAI for planning, summarising, doing practice questions, using it as an information tool, etc. As a lecturer, you can help students with this.

8. GenAI can support as a **writing assistant**: to get started faster, to generate ideas, as a translation tool, etc. In doing so, you should realise that writing is more than creating a written product. The writing process helps us think critically, analyse, formulate, organise, structure and communicate. Writing is therefore a valuable (learning) process. This is reason enough for many programmes to give human writing skills a permanent place in the curriculum.

9. There are lots of possible **applications** for GenAI in education. A few examples include:
   - Lecturers can have students use GenAI output as a semi-finished product to which they have to add authenticity themselves
   - You can develop a critical, inquisitive attitude by assessing output from GenAI/reflecting on it/ substantiating/refuting it or, if you are a lecturer, having students do those activities.
   - Lecturers can use GenAI as a tool to create lesson plans, rubrics, practice questions, examples, instructions
   - help with planning
   - help with searching for information
   - explanations of difficult concepts
   - asking for feedback
   - creating summaries
   - generating sample/practice exercises
   - gaining inspiration
   - and much more

10. A **future-proof curriculum** will include the applications of GenAI in professional practice. Each faculty has a Centre of Expertise for Applied AI lab where research on (Gen)AI in the professional practice is carried out. AI4Students develops tools for programmes to study the impact of (Gen)AI on the curriculum.

Recommendations - Assessment

These recommendations set out elements you need to take into account. They leave room for learning and innovation within specific circumstances. Please also consult the eight rules as well as the direction and key principles sections.

Assessments.Assessment refers to measuring and determining whether established objectives are/have been achieved. This document applies to the three functions of assessments:
1. the learning and development function (stimulating the learning process),
2. the decision function (assessment with consequences, e.g. yes/no credits),
3. the evaluation function (intended for adjustments to teaching methods or redesign of teaching).

For students: you are ultimately responsible for your work in all cases.

Recommendations on assessments **where you, as a lecturer, want to use GenAI responsibly**:

1. Engage with students about their **own responsibility** to achieve learning objectives and how using GenAI may or may not be appropriate.

2. Put more emphasis on **the process of learning** rather than the outcome. Conduct mid-term (feedback) interviews with students.

3. **Be familiar with GenAI**: Run your assessment through GenAI to see what results it produces.

4. Use '**reverse assessment**', where you let students improve, review, assess GenAI's output. This contributes to their sense of quality: the level and quality standards the work should meet in the specific situation.

5. The use of GenAI for an assessment may meet principled objections from students. In that case, you should engage with the student and seek out **customised solutions**, such as an alternative, equivalent assignment.

6. If possible, conduct a **discussion** (e.g. a criterion-based interview) with students regarding assessments with a submission deadline so that you can establish whether they have created the work themselves and/or what their contribution has been

7. For tests and assignments with a submission deadline (such as products, reports, etc.), you can choose to allow students to use GenAI. Always set out if, how and when students may use GenAI. Some examples of the use of GenAI that you can allow include:
   a. editing reports
   b. translating passages
   c. creating a layout for reports, charts, presentations.
   d. structuring a text or report
   e. generating images
   f. processing statistical data
   g. gaining ideas and inspiration or as a 'sparring partner'
   h. formulating research questions
   i. gathering information
   j. applying models and theories
   k. generating the structure and layout of a specific product, e.g. a consultancy report

Students must be able to account for the use of GenAI. As the above examples show, GenAI can be used to improve independently created work. To properly assess the submitted work, it is important that lecturers and examiners have insight into how it was created. This means that students retain the original, entered work and can indicate which tool and version they used, what prompts and what output it produced.

Recommendation on assessments **where, as a lecturer, you do not want GenAI to be used:**

Students should be able to achieve learning objectives independently and lecturers should be able to verify this. Lecturers can therefore decide that GenAI should not be used for certain tests.
The following guidance helps counteract unwanted use of GenAI in assessment (and ultimately helps students become proficient professionals):

1. Make sure test questions are **up to date and specific**. This (sometimes) makes them more difficult to answer by GenAI.

2. Where possible (constructively aligned), select authentic professional assignments as the test format. This requires **creativity** from students, making the use of GenAI more difficult.

3. Build formative opportunities into your teaching, which involves reviewing and discussing students' (sub)products/assignments. This allows you to get to know students better and **establish what they are capable of**.

4. Provide a **secure assessment environment** for assessment with specific time at which they are administered, so that GenAI cannot be used undetected.

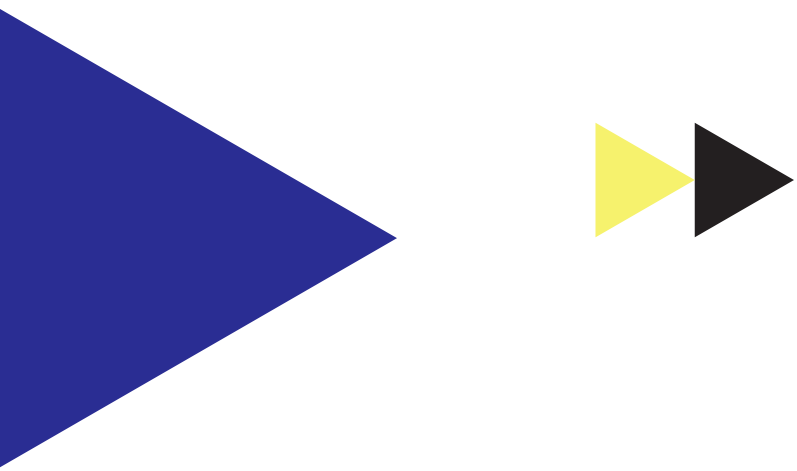
5. If possible, conduct a **discussion** (e.g. a criterion-based interview) with students regarding assessments with a submission deadline so that you can establish whether they have created the work themselves and/or what their contribution has been.

Fraud and plagiarism and GenAI

Fraud occurs in the following cases:
- GenAI has been used (as a tool) in cases where this is not permitted
- GenAI has been used (as a tool) in a way other than that permitted by the test instructions*.
  (* Test instructions can take different forms in degree programmes, but at least include the written instructions for students on what is allowed)

Plagiarism occurs in the following cases:
- GenAI was used (as a tool) without or with incomplete source citation
- GenAI was used (as a tool) with incorrect source citation
- work generated by GenAI has been presented as the student's own work.

This could cause a sanction to be imposed on the student, which could have **significant consequences**.
The Teaching and Examination Regulations set out how to deal with suspected fraud or plagiarism
(see Chapter 4 of the **Teaching and Examination Regulations**).



Recommendations - privacy, security, property

These recommendations set out elements you need to take into account. They leave room for learning and innovation within specific circumstances. Please also consult the eight rules as well as the direction and key principles sections.

1. Please **exercise due care in respect of data** you enter as input as it could end up in unwanted places. More often than we think, data can still be traceable to original names/people/companies, etc. due to context. However, you can safely enter public or publicly accessible information. Check a tool's privacy statement to see what the vendor does with data entered as input.

2. When using GenAI, it is often unclear who **owns** the inputs and outputs. Input (prompts) and output can be stored, which the system uses to continue to learn. It also allows it to build a profile of you as a user. Please be mindful of this.

3. There is still much debate about whether GenAI infringes on **copyright**. The systems were partly trained using data despite the original author not having given their consent for this.

4. Please note that a **paid GenAI account** does not effectively guarantee security and privacy.

Want to find out more?

Initial AUAS memorandum
ChatGPT/AI in education

Sharepoint Education
with AI

Teams environment
Education with AI

AUAS Applied AI
YouTube

AUAS Impact Magazine
Op weg naar de AI-ready student

SURF SIG AI in Education

Government-wide vision
Jan 2024


File Edit Selection Find View Goto Tools Project Window Help
Sat Feb 13 11:42:35
~/Repos/ShapeConnector/app/components/game/game.directive.coffee — ShapeConnector
game.directive.coffee
'use strict'
ShapeConnector (SC) Game Directive
Renders the game to the canvas and handles the events
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'$rootScope'
'$log'
'LEVELS'
'BOARD'
'SHAPE'
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require '../../services/watcher'
($rootScope, $log, LEVELS, BOARD, SHAPE, GameManager, Watcher) ->
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modalShown: '=?'
triggerGamePause: '=?pauseGame'
onNewGame: '&?'
onResetGame: '&?'
onQuitGame: '&?'
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watcher = new Watcher($scope)
$scope.showWinModal = false
$scope.showLoseModal = false
$scope.showPauseModal = false
$scope.isFirstInit = true
Line 1, Column 1; Detect Indentation: Setting indentation to tabs

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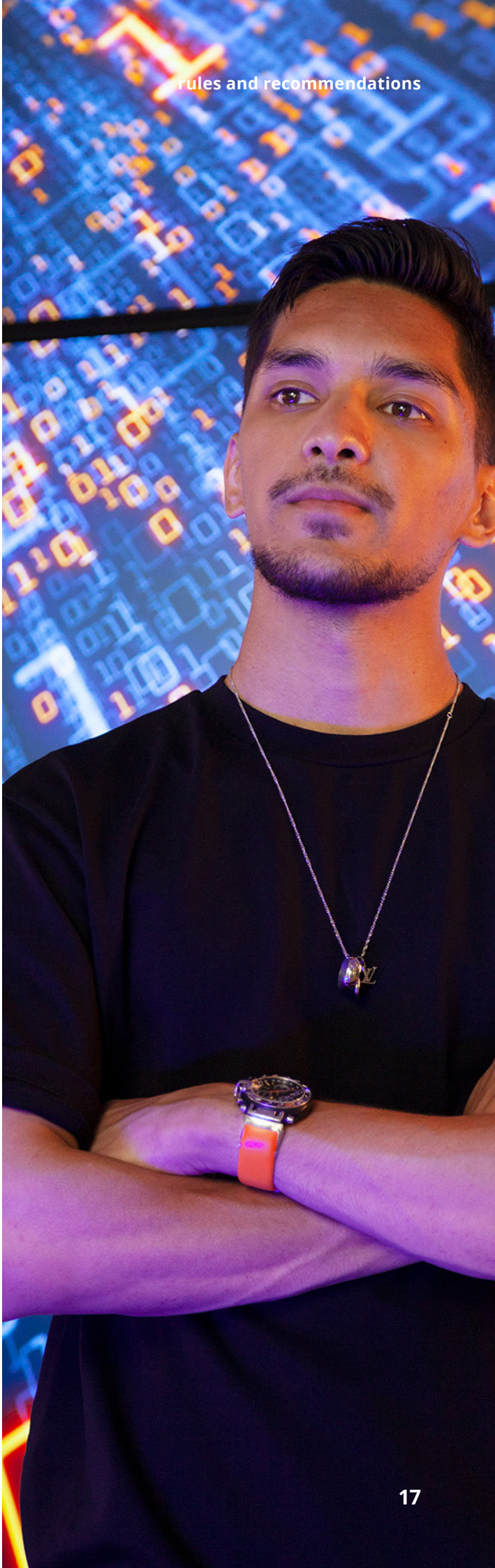
Colophon

April 2024 Education and Research Policy Office Executive Staff Department in collaboration with the Education with AI Project, the Council for the Chairs of the Examinations Boards, AUAS Academy, and the Privacy & Security and Digital Strategy and Information Policy Executive Staff Departments. Many thanks to the critical readers at the faculty Research & Education departments.



Creating Tomorrow