



Moodle Plug-in V3.1 for EvaExam

Contents

1. Overview	3
1.1. Connection via LTI®	3
1.3. General Information	4
2. Network Preparations	4
3. EvaExam Preparations	5
3.1. Activating the LTI® Interface	5
4. Installation in Moodle	6
5. Administrator's Functionalities	11
6. Moodle Block in Learner View	11
7. Moodle Block in Instructor View	14
8. How to Connect Exams between EvaExam and Moodle	15
9. Notes on Contacting Support	16

1. Overview

The “Moodle Plug-in for EvaExam”¹ allows you to quickly and easily integrate exam information data from EvaExam into Moodle. This way you can, for example, place links to online exams directly on the starting page of the Moodle learner accounts.

Data can be exchanged via the LTI[®] interface. Using LTI[®], you can display exam information in the learner view as well as in the instructor view.

1.1. Connection via LTI[®]

The LTI[®] interface provides a large range of functions:

- A Moodle block on the starting page shows student users links to available online exams.

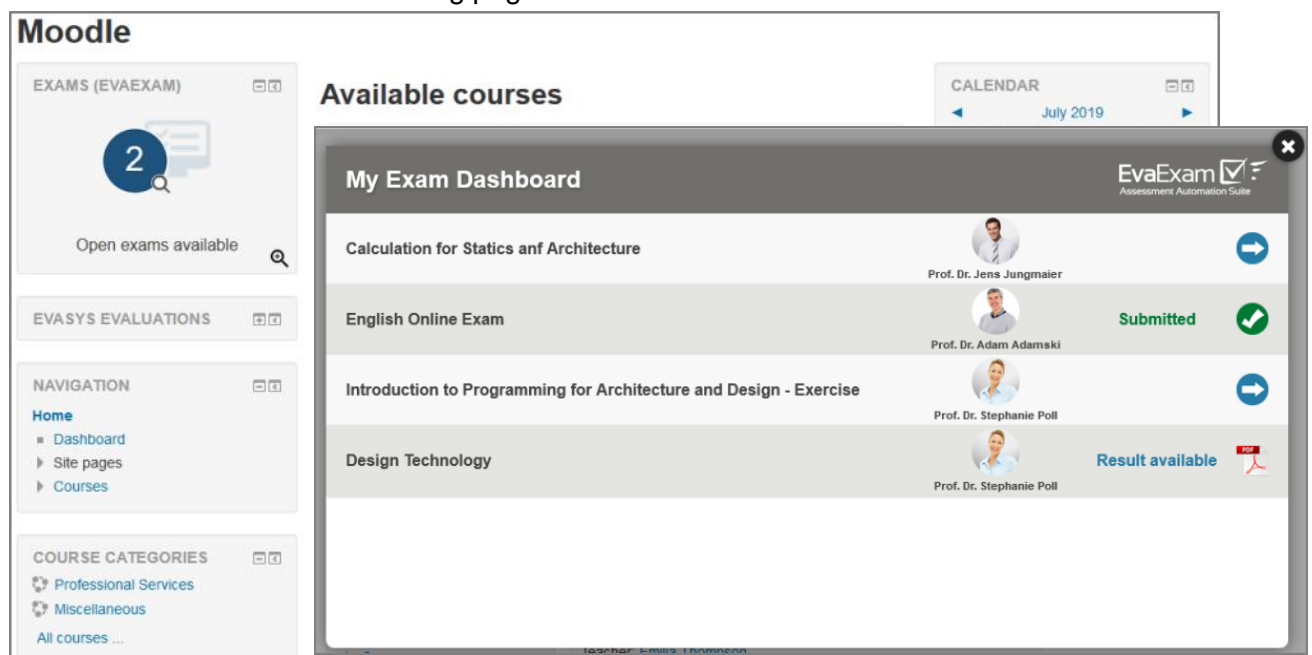
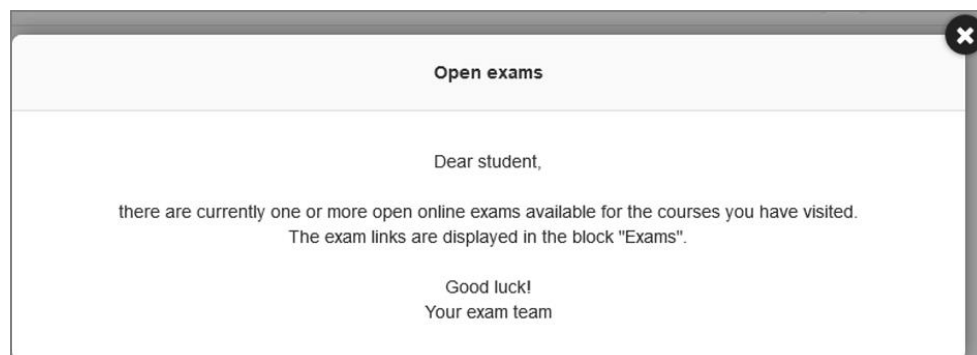


Figure 1: Exam list in learner view (LTI[®])

- Optionally, a pop-up can be activated, which alerts students to open online exams immediately after logging into Moodle.



¹ The “Moodle Plug-in for EvaExam” has been developed by Soon-Systems GmbH on behalf of Electric Paper Evaluationssysteme GmbH.

Figure 2: Pop-up learner view (LTI®)

- In the instructor view you can display an overview of the current exams with information on ongoing exams.

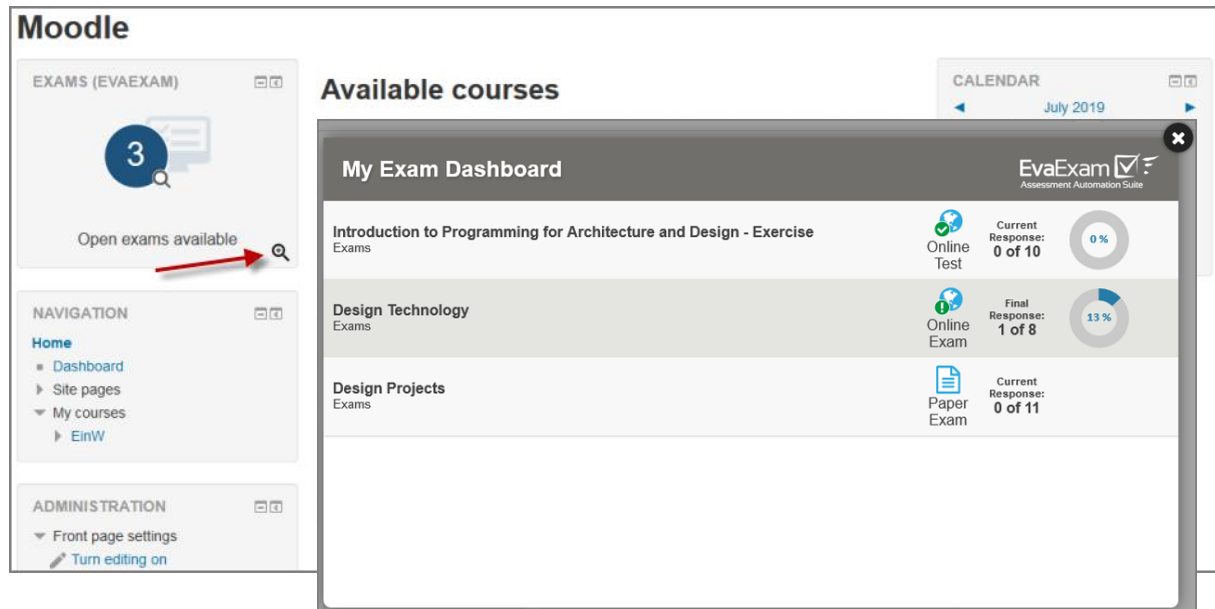


Figure 3: Exam list in lecturer view

Users can customize the appearance and structure of the blocks using HTML and CSS templates. For further information, please consult the separately available EvaExam Technical Guide (see page 71 ff) which can be downloaded in the EvaExam menu “System Settings / Documentation”.

1.3. General Information

By implementing a single sign-on solution, learners as well as instructors only must register with Moodle. It is not necessary to enter EvaExam PSWDs to participate in exams.

The internationalization interface of Moodle is supported. The LTI® templates are completely configurable. However, please note, that they do not consider the language selected in Moodle, but only the language defined in the template will be used.

The Moodle plug-in for EvaExam is tested for Moodle 3.1 and higher. We recommend using the current Moodle version 3.5.

In order for the integration to work, EvaExam 8.0 (2200) is required and the LTI®-Add-on needs to be licensed. For further information regarding your Moodle Plug-in please reach out to your local EvaSys representative.

2. Network Preparations

Since the Moodle server will communicate via Web Service calls with the EvaExam server, it is essential to make sure that there's a valid network route between both server systems.

Technically, EvaExam communicates via HTTP or HTTPS. By default, this means that the ports 80 or 443 are used for communication with Moodle.

In order to implement a seamless installation process, it is recommended to check on this network route with the IT administration department in charge of the actual Moodle and EvaExam servers.

3. EvaExam Preparations

3.1. Activating the LTI® Interface

The LTI interface can be activated in the EvaExam administrators' interface. To access the setting please go to "System Settings/Interfaces & Plug-ins/LTI® Interface".

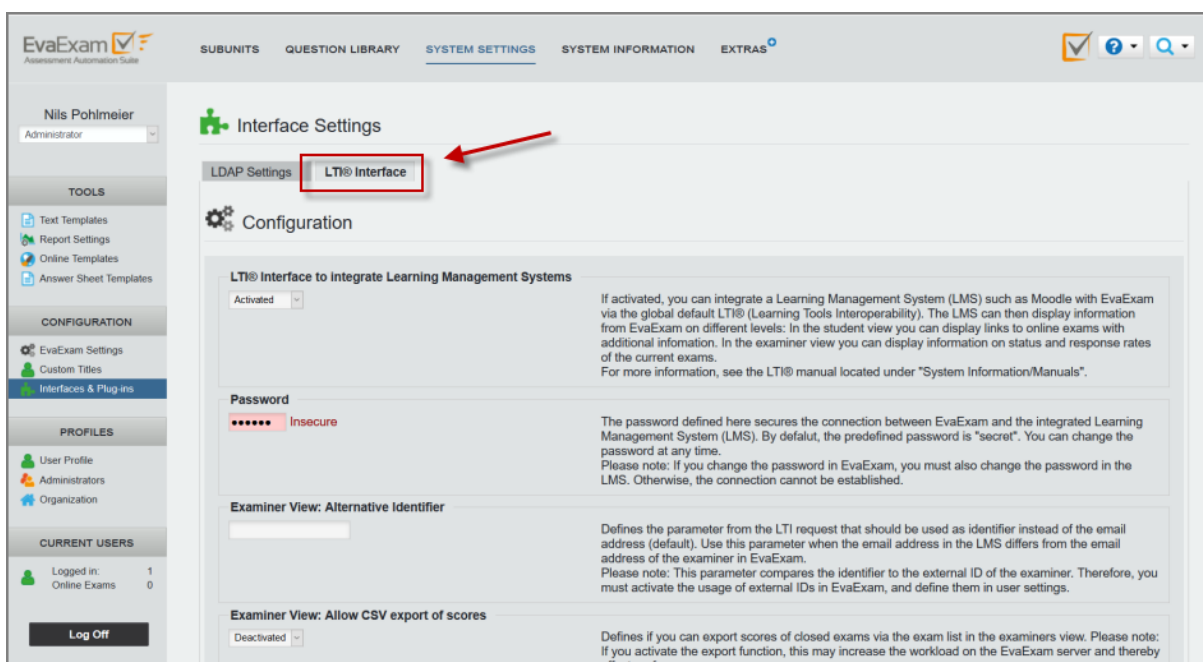


Figure 4: Activating the LTI® interface

Here you can activate the "LTI® Interface to integrate Learning Management Systems". In addition, you must define a password which protects the connection between EvaExam and Moodle. The default password is "secret". Please note that if you change the password in this EvaExam dialogue you need to change it in Moodle as well.

At the bottom of the page you can upload your own custom LTI® templates if you wish. If you do not upload a customized template, the standard templates are used. For further information, please consult the EvaExam Technical Guide (see page 71 ff) which you can download in the EvaExam menu "System Information / Manuals".

Note:

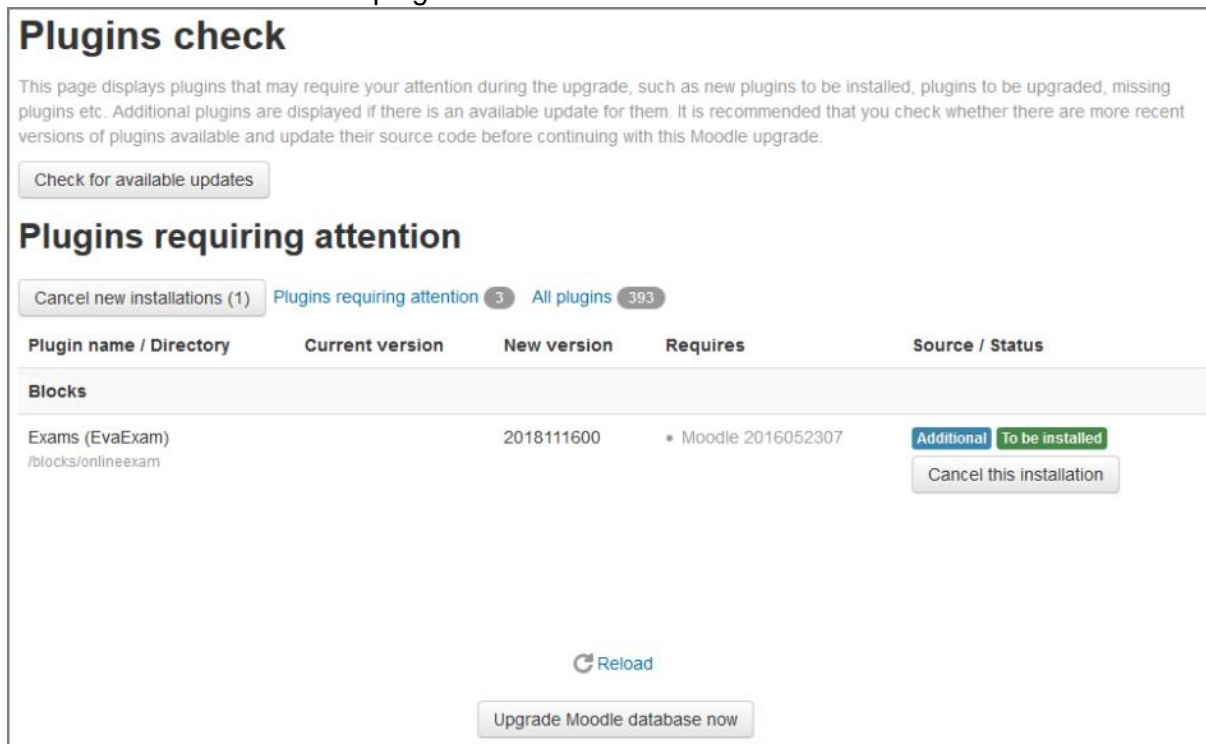
Please note that the settings regarding the display of content and data of your EvaExam-System in Moodle can only be configured by the EvaExam Administrator. Active users can not be permitted to configure individual settings.

4. Installation in Moodle

The plug-in installation is conducted via copying the installation package directly into the file system. The destination directory is:

[MOODLE INSTALLATION DIRECTORY]\blocks

After performing the copy operation, log in as administrator and you will see the notification screen with a list of the new plugins:



Plugins check

This page displays plugins that may require your attention during the upgrade, such as new plugins to be installed, plugins to be upgraded, missing plugins etc. Additional plugins are displayed if there is an available update for them. It is recommended that you check whether there are more recent versions of plugins available and update their source code before continuing with this Moodle upgrade.

[Check for available updates](#)

Plugins requiring attention

[Cancel new installations \(1\)](#) [Plugins requiring attention \(3\)](#) [All plugins \(393\)](#)

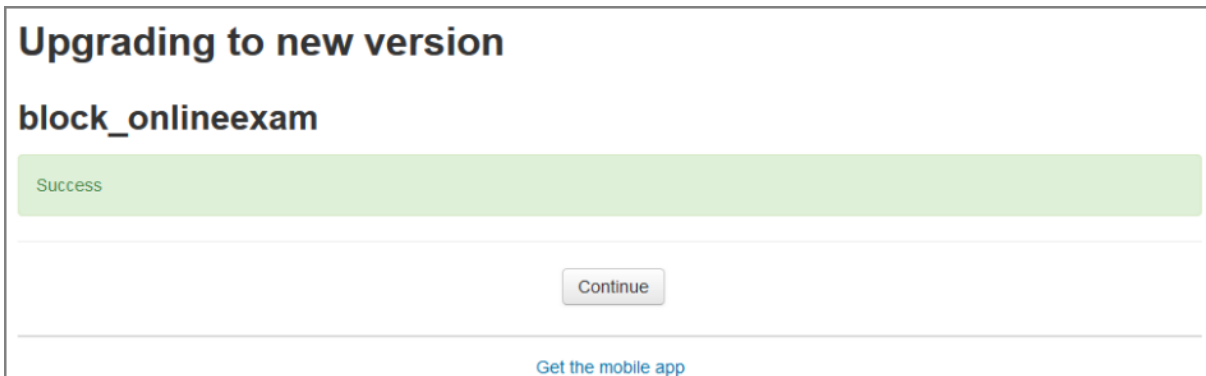
Plugin name / Directory	Current version	New version	Requires	Source / Status
Blocks				
Exams (EvaExam) /blocks/onlineexam		2018111600	• Moodle 2016052307	Additional To be installed Cancel this installation

[Reload](#)

[Upgrade Moodle database now](#)

Figure 5: Plug-in installation

Click **[Upgrade Moodle database now]** on the bottom of the page to proceed with the installation:



Upgrading to new version

block_onlineexam

Success

[Continue](#)

[Get the mobile app](#)

Figure 6: Installation complete

Click the button **[Continue]** to get to the next step of the installation.

General settings for the EvaExam block are made in the upper section of the window. In the lower section, you can define specific settings for the connection via LTI®.

In the general section **Exams (EvaExam)** you can set the following options:

- **Title:** The text entered here is used as the block title. (default: Exams (EvaExam)). You can define more than one language (e.g. English and German) using the following scheme:
`{mlang en}Exams (EvaExam){mlang}{mlang de}Examen (EvaExam){mlang}`
- **User Identifier:** Select whether a user's email address or log-in name as a unique identifier should be used. (default: e-mail address)
- **Custom field in EvaExam:** If the login name is defined as an identifier, one of the first three custom fields in EvaExam can be used for authentication.
Please note: This setting is only relevant for learners. If you decide to use the login name for instructors, the login name must be stored in EvaExam in the field "External ID" of the user settings.
- **Display mode:** In compact mode, the EvaExam Block displays the number of open exams by means of a graphic. In detailed mode, a list of available exams is displayed. In both modes, an enlarged list view can be opened when clicking on the graphic or magnifier icon.

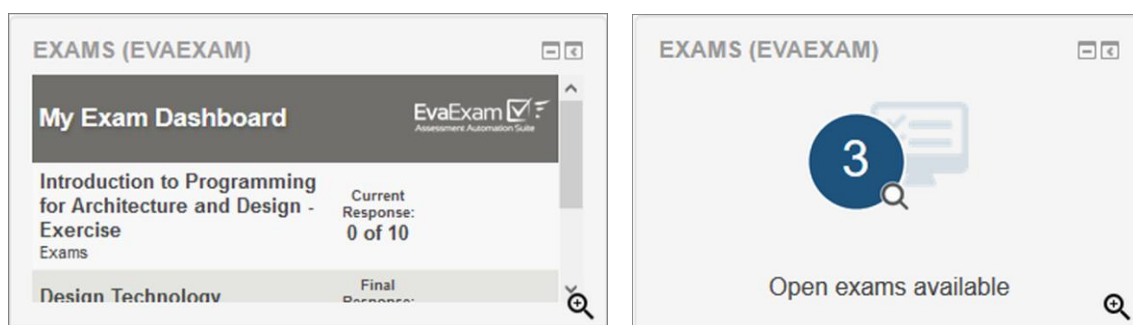


Figure 7: Display mode of the block – Detailed (left) and Compact (right)

- **Hide empty block:** If activated, the EvaExam block is hidden when the user has no exams. If it is not activated, in the compact view a graphic with the text "No open exams available" is displayed. Please note: If the LTI template you are using is configured in a way that participants are allowed to see and/or access results for exams they have taken part in, you may not hide the block. Otherwise, they would no longer be able to access the results.
- **Pop-up info active:** If activated, a pop-up with information on open online exams (if existing) is displayed every time a student logs in to Moodle. (default: No)
- **Connection timeout in seconds:** max. response time of the EvaExam server. (default: 3 seconds)
- **DEBUG:** Activate / deactivate error reporting in the user interface. (default: No)
- **Additional CSS for iframe:** Here you can add additional elements to the iframe with the help of CSS.

Exams (EvaExam)

Title
block_onlineexam | blocktitle
 Default: Exams (EvaExam)

User Identifier
block_onlineexam | useridentifier
 Default: Email address
 You can either transmit the user login name or email address as unique identifier.

Custom field in EvaExam
block_onlineexam | customfieldnumber
 Default: Custom field No. 1
 When using the login name as identifier you can specify, which of the first three custom fields in EvaExam should be used for authentication.

Presentation
block_onlineexam | presentation
 Default: brief
 The EvaExam Block can present either a brief summary or a detailed overview of the open exams.

Hide empty block
block_onlineexam | exam_hide_empty
☐ Default: No
 If activated, the EvaExam block is hidden if the current user has no open exams.

Pop-up-Info active
block_onlineexam | exam_show_popupinfo
☒ Default: No
 If activated, a pop-up message is displayed upon login of a user, giving notice of open exams.

Connection timeout in seconds
block_onlineexam | exam_timeout
 Default: 0

DEBUG
block_onlineexam | exam_debug
☐ Default: No

Additional CSS for iframe
block_onlineexam | additionalcss

 Default: Empty
 Content here will be added as CSS to the bottom of HEAD in iframe. This only applies to the compact representation!

Figure 8: Block settings dialog

When using LTI®, configure the following settings:

- **URL of the LTI provider:** URL of the provider PHP file on the EvaExam server.
([https://\[SERVERNAME\]/customer/lti/lti_provider.php](https://[SERVERNAME]/customer/lti/lti_provider.php))
- **LTI password:** Password defined in the EvaExam LTI® interface. (default: secret)
- **Custom Parameter:** Here the custom parameters are stored, which can be used to define settings for displaying the exams, e. g. whether the student view should also display completed exams (`learner_show_closed_exams=1`) or whether the reports of the exams can also be called up in the instructor view (`instructor_show_report=1`). For detailed information on the available parameters, please consult the EvaExam Technical Guide (see page 71 ff).
- **Role mapping "Instructor":** Defines which Moodle roles should correspond to the LTI® role "Instructor" (= lecturer) who will see the EvaExam Moodle plug-in for instructors.
- **Role mapping "Learner":** Defines which Moodle roles should correspond to the LTI® role "Learner" (= students) who will see the EvaExam Moodle plug-in for students.
- **Learner regular expression:** Regular expression which searches the content of the LTI®-Response for open online exams. This only needs to be adjusted if customized templates have been created or modified in a way that the functions differ from the standard templates.

- **Instructor regular expression:** Regular expression which searches the content of the LTI®-Response for open online exams. This only needs to be adjusted if customized templates have been created or modified in a way that the functions differ from the standard templates.

LTI

The following information is required for communication via "LTI".

URL of the LTI Provider
block_onlineexam | lti_url

Default: Empty

LTI password
block_onlineexam | lti_password

Custom parameters
block_onlineexam | lti_customparameters

Default: Empty

Custom parameters are settings used by the tool provider. For example, a custom parameter may be used to display a specific resource from the provider. Each parameter should be entered on a separate line using a format of "name=value"; for example, "learner_show_completed_exams=1". For further information please refer to the EvaExam LTI Manual.

Role mapping "Instructor"
block_onlineexam | lti_instructormapping

Manager

Course creator

Teacher

Non-editing teacher

Student

Guest

Authenticated user

Authenticated user on frontpage

Default: Teacher, Non-editing teacher

Here you can define which Moodle roles shall be mapped on the LTI role "instructor".

Role mapping "Learner"
block_onlineexam | lti_learnermapping

Manager

Course creator

Teacher

Non-editing teacher

Student

Guest

Authenticated user

Authenticated user on frontpage

Default: Student

Here you can define which Moodle roles shall be mapped on the LTI role "learner".

Learner regular expression
block_onlineexam | lti_regex_learner

Default: /<(p){1}<.{0,}[s]{0,}(data-participated="false"){1}[s]{0,}/

Regular expression to search for open online exams for "learners" in the LTI result.

Instructor regular expression
block_onlineexam | lti_regex_instructor

Default: /<(div){1}[s]{1,}(class=){1}[s]{1}[a-z]{0,}[s]{0,}(response-box){1}[s]{0,}[a-z]{0,}[s]{0,}[s]{1}>/

Regular expression to search for open online exams for "instructor" in the LTI result.

Save changes

Figure 9: LTI® settings

If all necessary settings have been made, please click on the **[Save changes]** button to continue.

The block can be added to the user interface by turning on editing by the **[Turn editing on]** button and selecting the "Exams (EvaExam)" option in the "Add a block" menu.

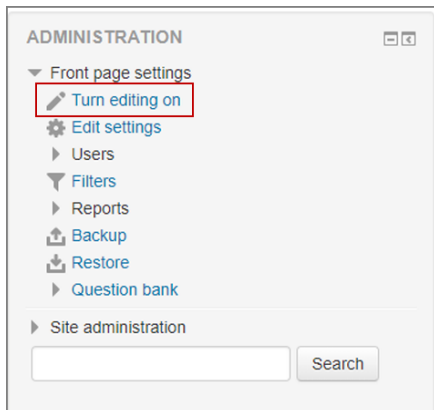


Figure 10: Turning editing on

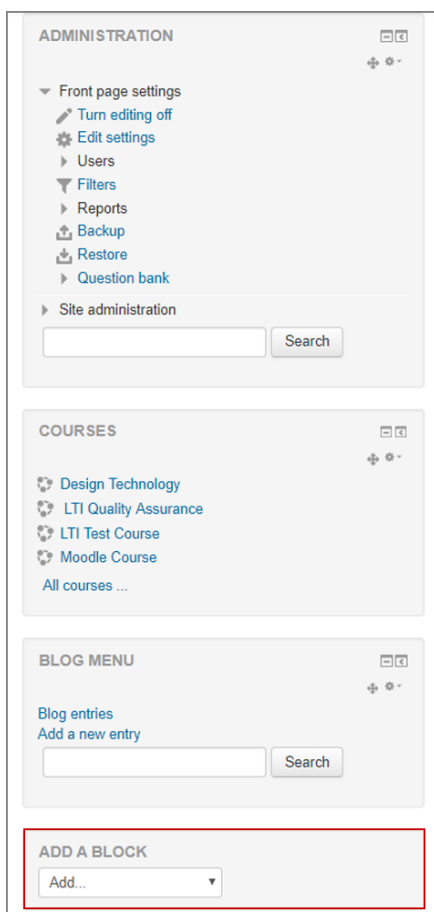


Figure 11: Adding a block

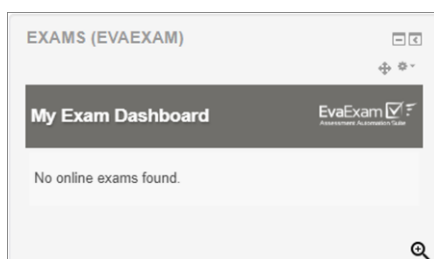


Figure 12: Block shown on the administrator's front page

5. Administrator's Functionalities

From the administrator's perspective, the block only checks whether the connection to the EvaExam server can be established. If problems occur these are logged to the log file (provided that logging is activated) and an error message like the one below is displayed.

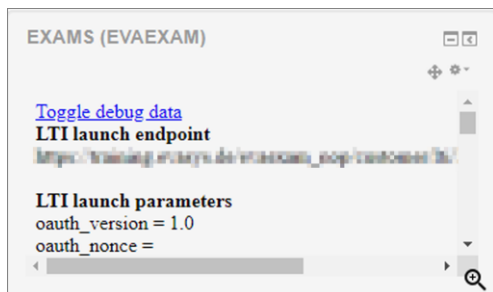


Figure 13: Connection error message

6. Moodle Block in Learner View

If the Moodle plug-in for EvaExam has been activated for the learner view, the block appears at the defined position directly on the Moodle homepage.

The following functions are available when using the LTI® interface:

If activated, a pop-up window will appear after logging in which informs students that open online exams are available. The message appears after each new login as long as open online exams are available. If there are no more exams in which the student can participate, the message will not be displayed any more.

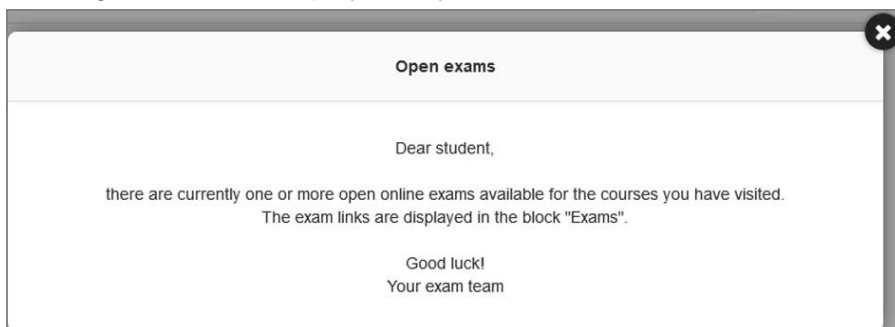


Figure 14: Pop-up window in student view

The Moodle block shows a list of current exams where those in which the student has not yet taken part are always displayed at the top of the list.

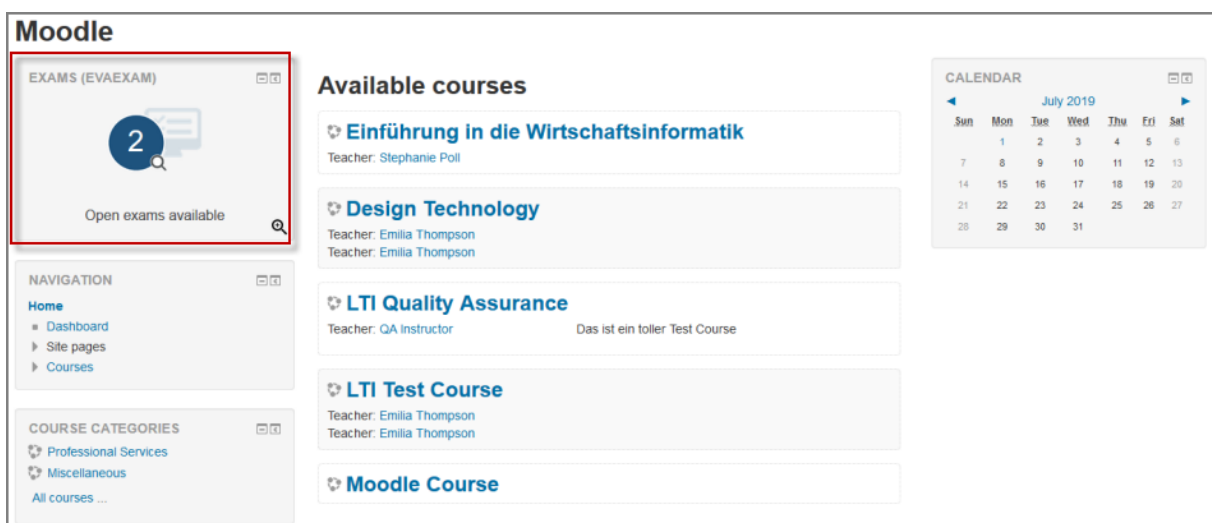
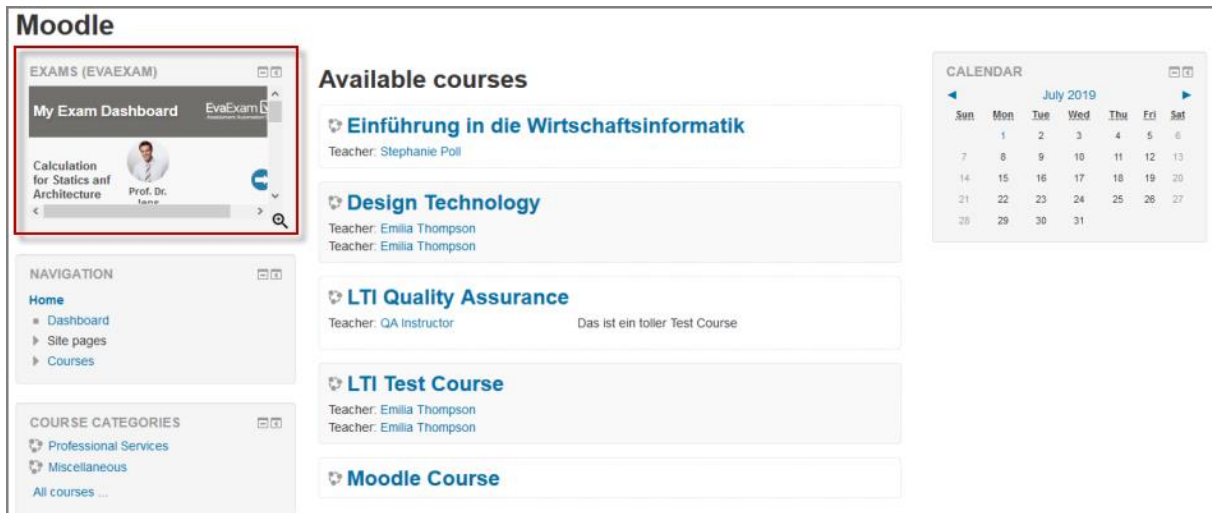


Figure 15: EvaExam Moodle block on the home page - Student view (detailed and compact view)

By clicking on the magnifier icon at the top left of the block, the view can be enlarged so that all information of the list according to the LTI® template can be seen.

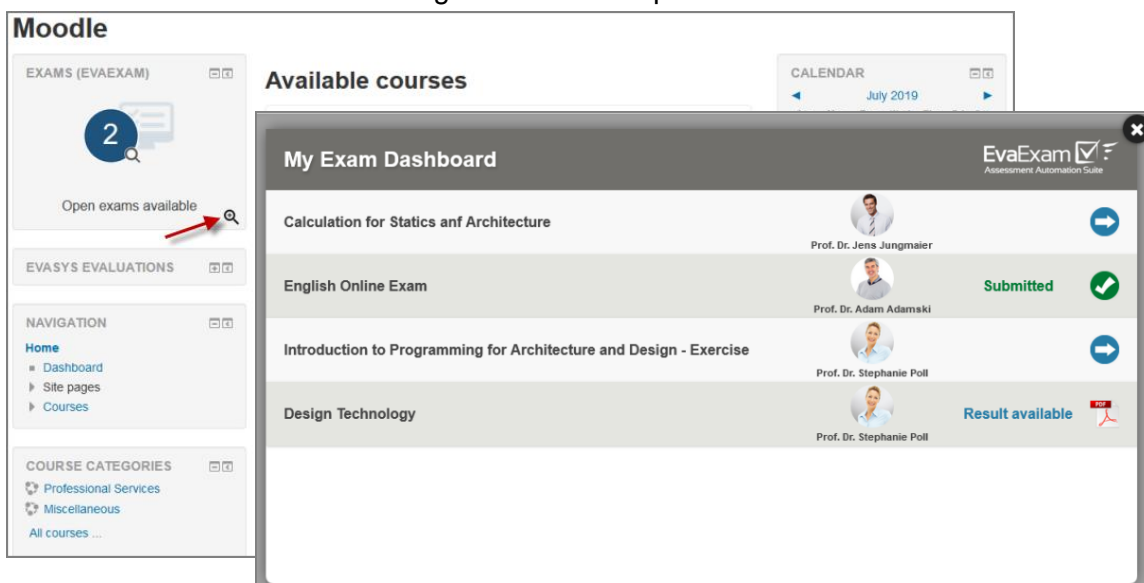


Figure 16: Moodle block enlarged view

The example shows four exam in which the student is enrolled. The first and the third exam have not yet been completed. By clicking on the arrow, you can switch directly to the exam. Further authentication via PSWD is not necessary.

The second exam has already been taken. The online exam has already been sent to the instructor by the participant. However, the exam has not yet been officially completed. In the LTI® template, a custom parameter has been used to define that exams in which the student has already participated are still to be displayed.

In the fourth case, the LTI® template has been set up through a custom parameter to allow students to access the results once the exam has been completed. If you click on the report symbol, you will receive a PDF-students-report showing the unique results for every single student.

The layout and the displayed contents of the LTI® template are freely configurable. The result view for participants can be activated or deactivated, for example. For more detailed information, please consult the EvaExam Technical Guide (see page 71 ff).

Note:

The number of exams that are displayed in Moodle will not be limited by default. With an increasing number of exams long listings in Moodle may occur.

To prevent this, you may deactivate the option “**Show completed exams**” for students. This will prevent the students from viewing exams they already took part in. Please note that this also will prevent them from accessing their individual result reports.

7. Moodle Block in Instructor View

If the Moodle plug-in for EvaExam has been activated for the lecturer view, the block appears at the defined position on the Moodle homepage.

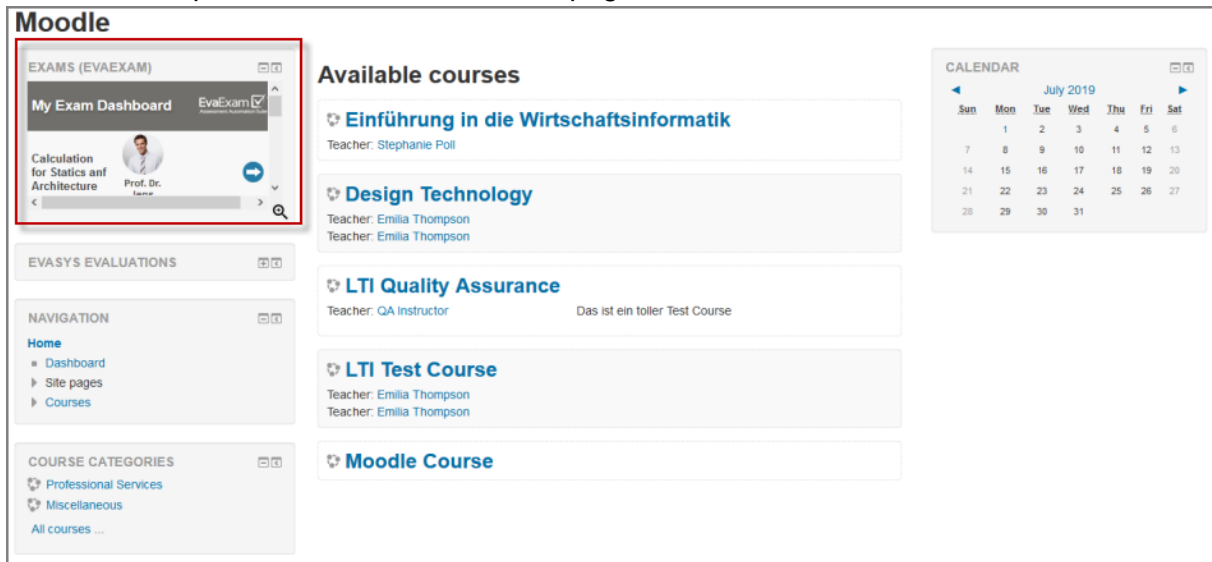


Figure 17: EvaExam Moodle block on the homepage – lecturer view

By clicking on the magnifier icon at the top left of the block, the view can be enlarged so that all information of the list according to the LTI[®] template are visible.

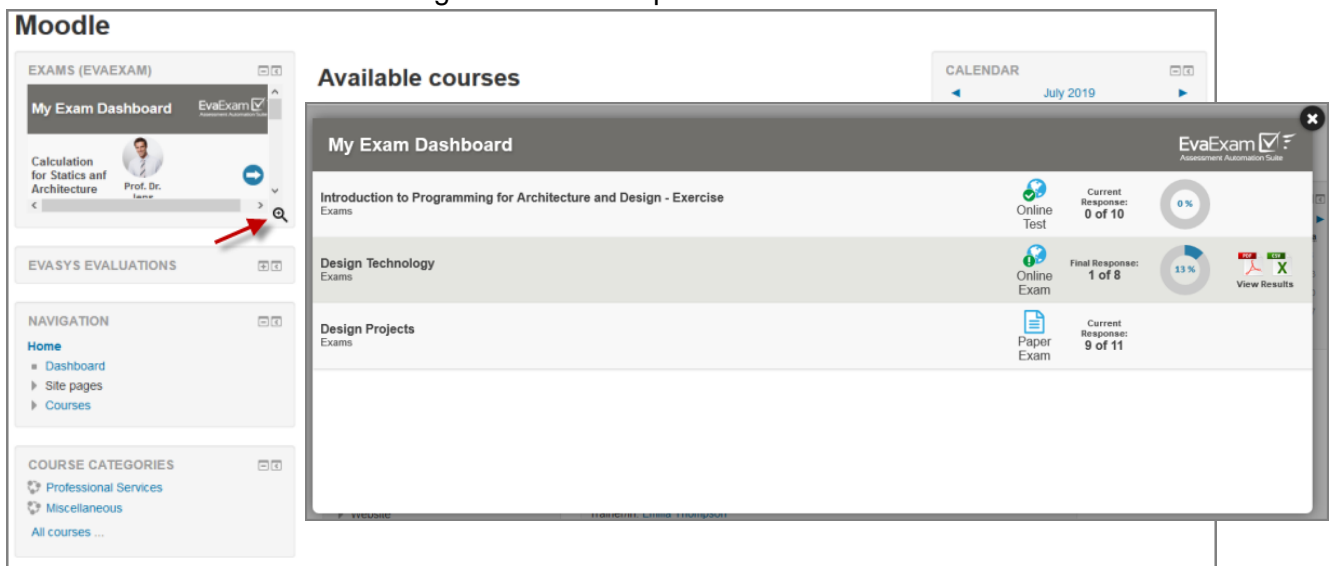


Figure 18: Moodle block enlarged view

In the example above, you can see three courses of a lecturer. Depending on how the LTI[®] template is configured, different information can be made available. The first event is an open online exercise. The currently available response rate is displayed.

The second example is online exam which has already been completed. The final response is displayed and the exams results can be downloaded in PDF format or in the form of CSV raw data.

The third example shows a paper based exam which is still open. Only the current response is displayed.

The layout as well as the displayed contents of the LTI® template can be freely configured. The download of the exams can be activated or deactivated, for example. For more detailed information, please consult the EvaExam Technical Guide (see page 71 ff).

Note:

The number of exams that are displayed in Moodle will not be limited by default. With an increasing number of exams long listings in Moodle may occur.

To prevent this, you may activate the option **“Display closed exams”** for instructors and toggle the number of months shown with the option **“Display closed exams of recent months”**.

If you wish to prevent the display of closed exams in Moodle entirely you may deactivate the option **“Display closed exams”** for either instructors or students or both. Please note that this will also prevent them from accessing the result data for both PDF-Reports as well as CSV-exports.

8. How to Connect Exams between EvaExam and Moodle

The link between student Moodle users and an EvaExam online exam is either achieved by using the student's email address or by an EvaExam custom field which must contain the name of the Moodle user (see chapter 4 “Installation in Moodle”).

After the students have logged in to Moodle, the email address or user name is transferred to EvaExam. EvaExam checks whether there are open online exams for courses in which the email address or user name of the student has been imported as a participant.

For this reason, it is necessary to import participants' data into EvaExam before generating online exams.

Participants data can be imported using a simple CSV file format. If the **email address is used as an identifier** the CSV format file only has to include the students matriculation number as well.

Example:

MA05Wiw2; person01@localserver.com

MA05Wiw2; person02@localserver.com

MA05Wiw2; person03@localserver.com

MA05Con; person01@localserver.com

MA05Con; person03@localserver.com

MA05Con; person04@localserver.com

This example shows two courses with three and four participants each. Some of the participants are attending both courses, some only one of both.

If the Moodle user name is used as an identifier, the CSV format must also contain the Moodle user name. This is imported into one of the first three possible custom fields. Further information such as first and last name, title etc. can be imported, if desired. For more detailed information on the file format, please refer to the EvaExam User Guide.

Example:

```
MA05Wiw2;person01@example.com;;;;;person01_User_name
MA05Wiw2;person02@example.com;;;;; person02_User_name
MA05Wiw2;person03@example.com;;;;; person03_User_name
MA05Con;person01@example.com;;;;; person01_User_name
MA05Con;person03@example.com;;;;; person03_User_name
MA05Con;person04@example.com;;;;; person04_User_name
```

9. Notes on Contacting Support

In order to be able to trace the problem efficiently, support needs various log files from the servers involved in the integration. When contacting Electric Paper support please take the following steps and provide the log files listed below:

- Enable “Debug mode” on the EvaExam server (please refer to the EvaExam Administrator manual for details)
- Enable “Debug mode” in the Moodle block settings
- Perform a test run with a student account for which online exams are available
- Make notes (screenshot if possible) regarding date and time of your test run and the error message displayed
- Disable “Debug mode” on the EvaExam server and Moodle

The following log files should be provided when contacting Electric Paper support:

File name	Default location
access.log	C:\inetpub\wwwroot\logs (if Apache web server is used)
soapserver.log	C:\inetpub\wwwroot\htdocs\EvaExam\data\logs (if Apache web server is used)
	C:\inetpub\wwwroot\EvaExam\data\logs (if IIS web server is used)
MoodleBock.log**	Directory name provided in the settings dialog

If you need assistance in setting up and configuring the plug-in in Moodle, or if you are interested in a custom development for the plug-in, Soon-Systems GmbH can offer you a corresponding service. In case of interest, please contact info@soon-systems.de.