

Erasmus + Project No 598241-EPP-1-2018-1-RS-EPPKA2-CBHE-JP  
**Strengthening Educational Capacities by Building Competences and  
Cooperation in the Field of Noise and Vibration Engineering**  
**SEN V I B E**

# **Report on the Requirements and Design of the ICT Platform**

**Second Report**

**Activity 2.1**

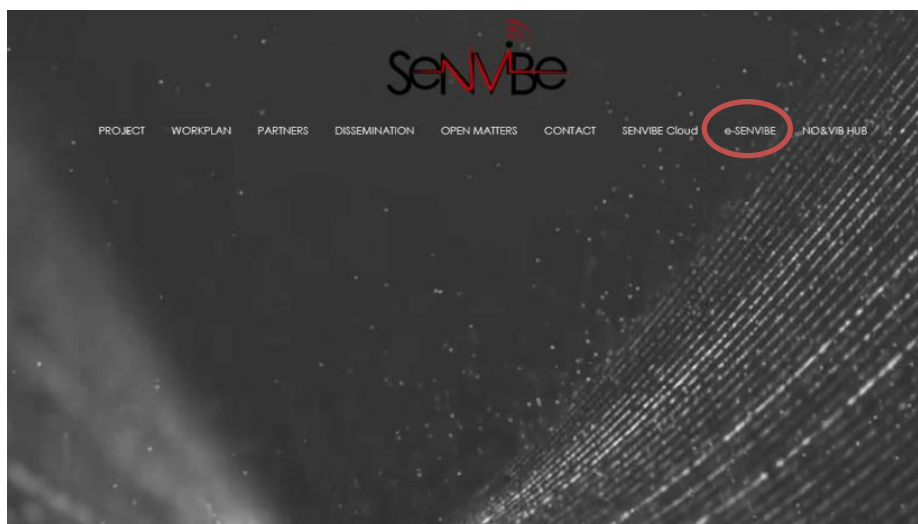
**Date: 7/11/2020**

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## 1. Descriptions of the ICT Platform (Moodle)

One of the services and products planned to be achieved during the SENVIBE project is the design, establishment and use of the ICT platform (Moodle), which is named 'e-SENVIBE'. The access to the Moodle is navigated via the menu bar of the SENVIBE web-site <https://senvibe.uns.ac.rs/> (see **Figure 1**, where 'e-SENVIBE' is encircled by the red ellipse).



**Figure 1.** Access and log-in to the Moodle (e-SENVIBE) via the SENVIBE web-site

A new logo 'e-SENVIBE' has been created to accommodate the visual identity of the SENVIBE project, as shown in **Figure 2**.



**Figure 2.** Logo e-SENVIBE

The Moodle is hosted by the University of Novi Sad (UNS). It has been designed, maintained and updated by the UNS IT-team. This platform will have various types of users (accessing it from a variety of devices) and a multiple purpose.

Among the users (U) are:

- U1. SENVIBE HEI partners and their students of undergraduate courses;

- U2. Students of a new MSc programme on Vibro-Acoustic Engineering at the UNS (direct access);
- U3. Attendees (trainees) of LLL courses (remote access);
- U4. Stakeholders engaged in No&Vib Hub (remote access).

Its purpose (P) is associated with the aforementioned users:

- P1. Education (U1, U2, U3);
- P2. Exchange of measurements data (U1);
- P3. Communication (U4);
- P4. Collecting contributions (U4);
- P5. Dissemination (U1-U4);
- P6. Exploitation (U1-U4);
- P7. Sustainability (U2-U4).

## 2. Overview of the Platform

### 2.1. Overview of the Moodle learning system

The Moodle (**Figure 3**) is a free and open-source learning platform designed to provide educators, administrators and learners with a single robust, secure and integrated system to create personalised learning environments. A simple interface, drag-and-drop features, and well-documented resources along with ongoing usability improvements make Moodle easy to learn and use for teacher and learners. The Moodle provides the most flexible tool-set to support both blended learning and 100% online courses. It is possible to configure the Moodle by enabling or disabling core features, and easily integrate everything needed for a course using its complete range of built-in features.



Figure 3. Moodle logo

### 2.2. Overview of the Moodle features

#### General Features

- **Modern, easy to use interface** - Designed to be responsive and accessible, the Moodle interface is easy to navigate on both desktop and mobile devices.

- **Personalised Dashboard** - Display current, past and future courses, along with tasks due.
- **Collaborative tools and activities** - Work and learn together in forums, wikis, glossaries, database activities, and much more.
- **All-in-one calendar** - Moodle's calendar tool helps the user keep track of his/her academic or company calendar, course deadlines, group meetings, and other personal events.
- **Convenient file management** - Drag and drop files from cloud storage services including MS OneDrive, Dropbox and Google Drive.
- **Simple and intuitive text editor** - Format text and conveniently add media and images with an editor that works across all web browsers and devices.
- **Notifications** - When enabled, users can receive automatic alerts on new assignments and deadlines, forum posts and also send private messages to one another.
- **Track progress** - Educators and learners can track progress and completion with an array of options for tracking individual activities or resources and at course level.
- **Useful new dashboard blocks** - Keep up to date with the Timeline block, the Starred courses block, the Recently, accessed courses block and the Recently accessed items block, all available for the dashboard.
- **Next cloud integration** - If enabled by the administrator, Nextcloud repository may be searched for uploading files to your courses, both as copies or access controlled links.
- **Record assignment feedback** - Media and other file uploads are permitted when grading assignments, meaning teachers can record their feedback and/or include supporting images or other files.

### Administrative Features

- **Customizable site design and layout** - Easily customise a Moodle theme with the user logo, color schemes etc.
- **Secure authentication and mass enrolment** - Over 50 authentication and enrolment options to add and enroll users to Moodle site and courses.
- **Multilingual capability** - Allow users to view course content and learn in own language or set it up for multilingual users and organisations.
- **Bulk course creation and easy backup** - Add courses in bulk, backup and restore large courses with ease.

- **Manage user roles and permissions** - Address security concerns by defining roles to specify and manage user access.
- **Supports open standards** - Readily import and export IMS-LTI, SCORM courses and more into Moodle.
- **High interoperability** - Freely integrate external applications and content or create your own plugin for custom integrations.
- **Simple plugin management** - Install and disable plugins within a single admin interface.
- **Regular security updates** - Moodle is regularly updated with the latest security patches to help ensure Moodle site is secure.
- **Detailed reporting and logs** - View and generate reports on activity and participation at course and site level.

### Course Development and Management Features

- **Direct learning paths** - Design and manage courses to meet various requirements. Classes can be instructor-led, self-paced, blended or entirely online.
- **Encourage collaboration** - Built-in collaborative publishing features foster engagement and encourage content-driven collaboration.
- **Embed external resources** - Teach materials and include assignments from other sites and connect to the gradebook in Moodle.
- **Multimedia Integration** - Moodle's built-in media support enables you to easily search for and insert video and audio files in your courses.
- **Group management** - Group learners to share courses, differentiate activities and facilitate team work.
- **Marking workflow** - Conveniently assign different markers to assignments, manage grade moderation and control when marks are released to individual learners.
- **In-line marking** - Easily review and provide in-line feedback by annotating files directly within browser.
- **Peer and self assessment** - Built-in activities such as workshops and surveys encourages learners to view, grade and assess their own and other course members' work as a group.
- **Integrated badges** - Fully compatible with Mozilla Open Badges, motivate learners and reward participation and achievement with customised Badges.
- **Outcomes and rubrics** - Select from advanced grading methods to tailor the gradebook to the course and examination criteria.
- **Competency based marking** - Set up competencies with personal learning plans across courses and activities.

- **Security and privacy** - Teacher can create classroom which only his students can attend.

### 3. Overview of the Moodle structure for e-SENViBE

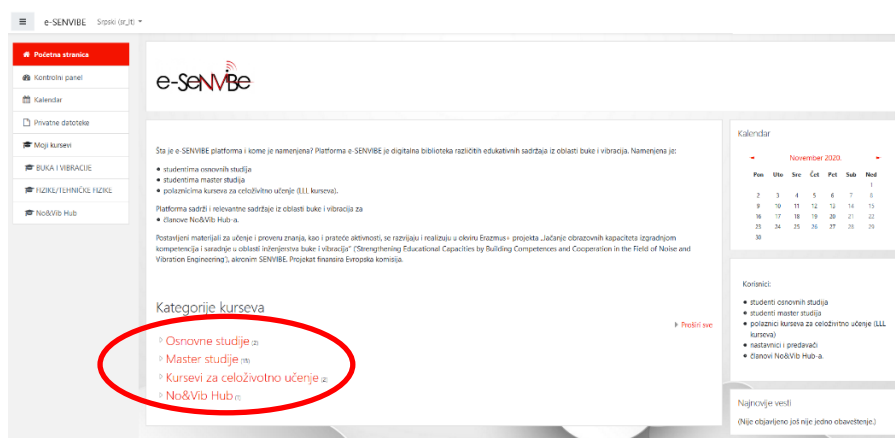
The front page of e-SENViBE is locked down, so after clicking on the Moodle URL, the user gets a log-in screen. All users need to be registered (**Figure 4**). Users gain access to different parts of the e-SENViBE learning platform and have different permission for editing and seeing the courses.



**Figure 4.** Restricted access, Login page

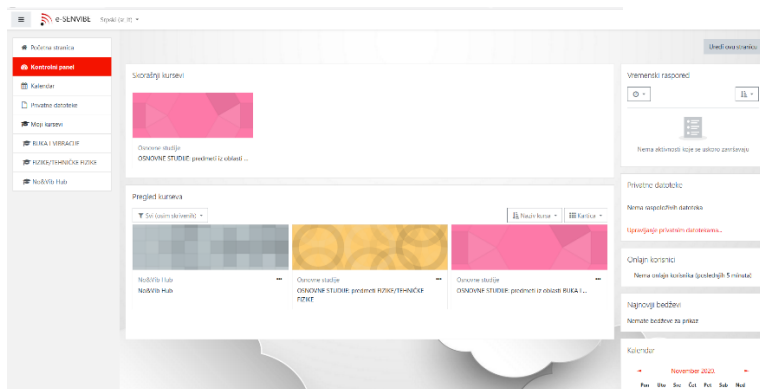
#### 3.1. General Features

The home page of the Moodle is modified to assure easy and quick access to materials by four various types of users U1-U4 listed in Section 1, and give information about the contents for all the respective users (**Figure 5**).



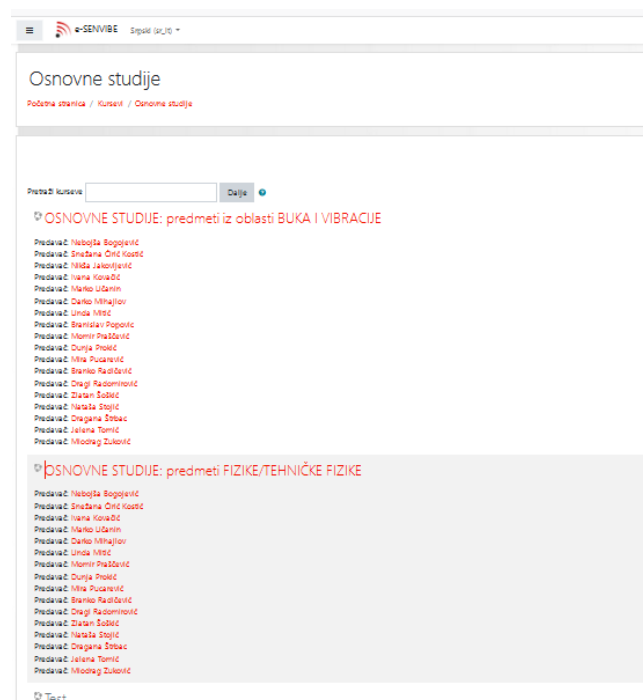
**Figure 5.** Internal home page (users U1-U4 are encircled by the red ellipse)

The Dashboard of the Moodle provides the users overview about the curses they attend or teach (**Figure 6**).



**Figure 6.** Available courses for the user.

Courses for undergraduate students are divided into two categories: courses on Noise & Vibration and Short modules (as parts of courses in Physics/Technical Physics) and access is granted for users by their roles and permissions (**Figure 7**). Only enrolled users can access courses. Only assigned teacher can edit courses.

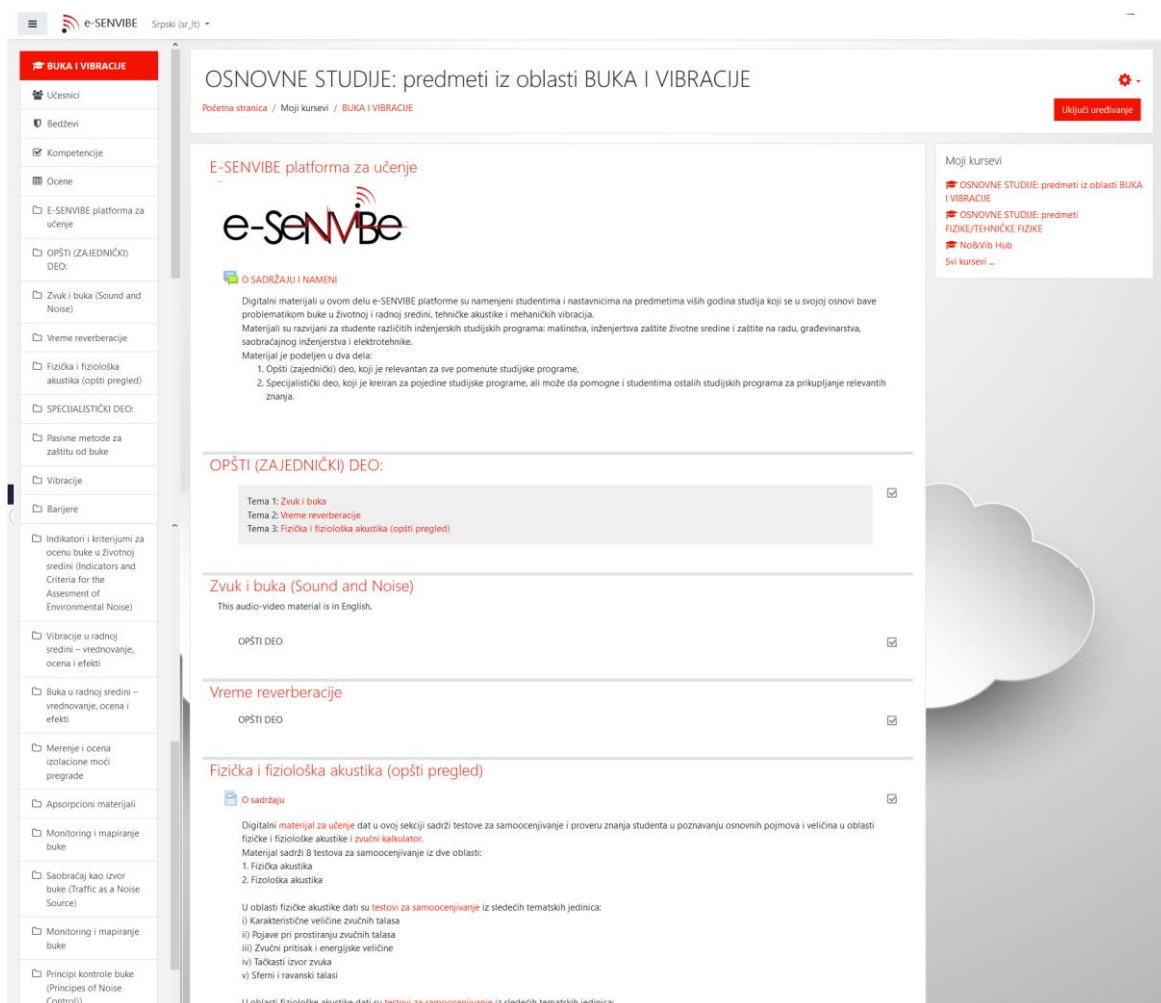


**Figure 7.** Two categories of courses for undergraduate students in e-SENVI BE



### 3.2. Moodle for undergraduate students

The part of e-SENVIBE for the courses on Noise & Vibration is divided into topics defined in Task 3.3 Development of learning materials of the SENVIBE project. The teachers are provided with the editing options. Interactive links are added to provide students with quick access to the topics they are looking for (**Figure 8**).



**Figure 8.** Organisation of topics for courses on Noise & Vibration for undergraduate students

### 3.3. Moodle for master students on Vibro-Acoustic Engineering

This part currently contains only the courses included into the new master programme on Vibro-Acoustic Engineering developed during the SENVIBE project as this programme is still under accreditation (**Figure 8**).

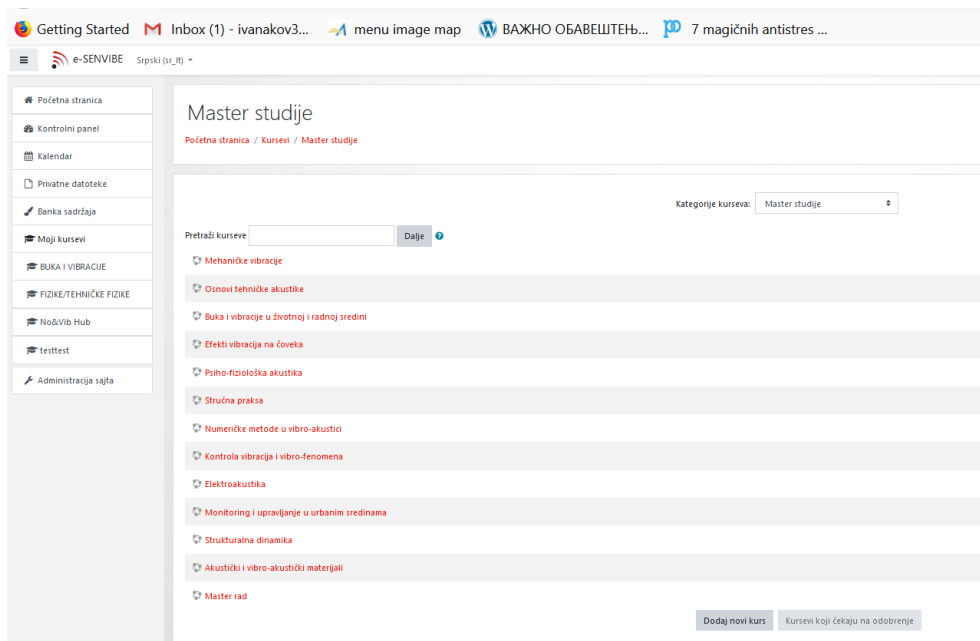


Figure 9. Course that are the part of the master study programme on Vibro-Acoustic Engineering at UNS

### 3.4. Moodle for LLL courses

This part is still under constructions as the development of the LLL courses is still work in progress. It is planned that this part will contain various material developed under the SENVIBE project for attendees of the SENVIBE LLL courses (Figure 10).

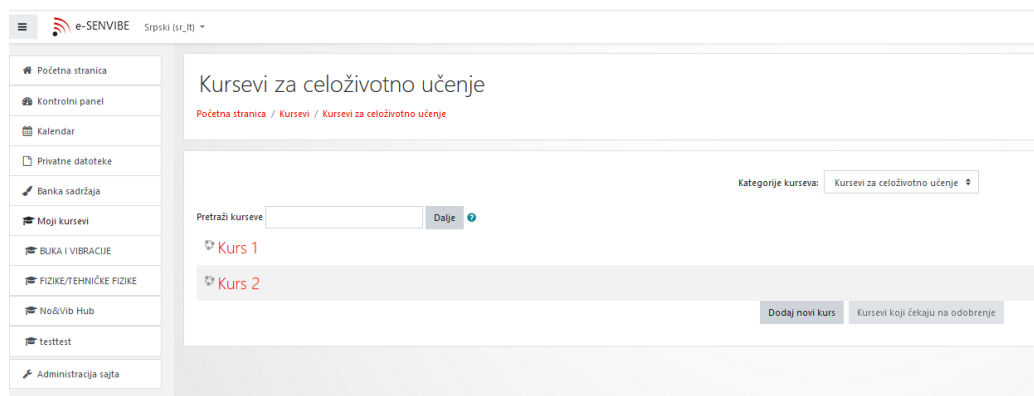


Figure 10. Moodle for LLL course

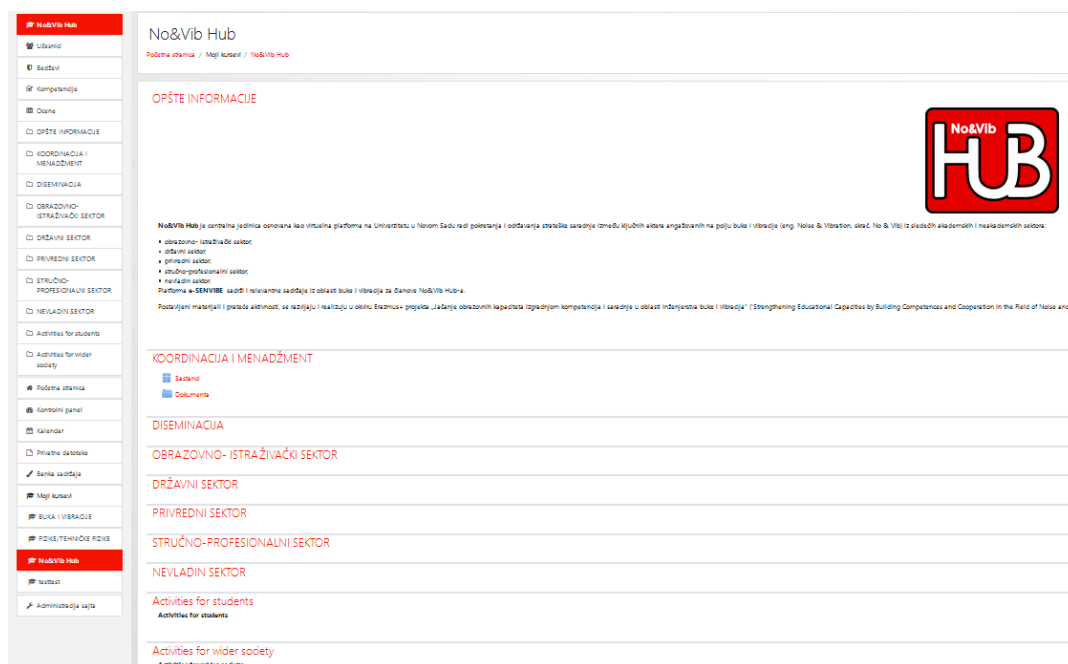
### 3.5. Moodle for No&Vib Hub

The No&Vib Hub is a central unit established at the University of Novi Sad for launching and facilitating strategic cooperation among the key stakeholders engaged in Noise &

Vibration. Currently, its Moodle content encompasses the material divided into five groups related to various sectors engaged in the Hub (**Figure 11**):

- Education and research sector;
- Government sector;
- Business sector;
- Professional sector and expert services groups;
- Non-governmental sector.

It also contains the sections for Coordination & Management, Dissemination, Activities for students and Activities for wider community.



**Figure 11.** Part of the Moodle for the No&Vib Hub

## 4. Conclusions and Future Work

The Moodle system 'e-SENVIbE' is set for the SENVIbE project as its ICT learning platform. The platform provides a wide range of functionalities for various users needed during and after this project: i) SENVIbE HEI partners and their students of undergraduate courses; ii) students of a new MSc programme on Vibro-Acoustic Engineering at the UNS; iii) attendees (trainees) of the SENVIbE LLL courses; and iv) stakeholders engaged in the No&Vib Hub.

The part set for undergraduate students has already been filled in with the e-learning and teaching material developed during the SENVIbE project, as the implementation of these courses is in progress. The parts for master students, LLL courses and the No&Vib Hub are expected to be considerably developed and filled in with new material as the project progresses. In this respect, further functionality of the Moodle is to be explored and utilised.

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**Novi Sad, 7/11/2020**

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**Approved by the Steering Committee**  
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