

2024



Co-funded by
the European Union



D4.2 Guidelines and Training Materials on Digital Study via VIC for staff and students

AFID PROJECT

*ACADEMIC FREEDOM AND INCLUSION THROUGH
DIGITALIZATION*

March 2024



Contents

1. INTRODUCTION	4
2. VIRTUAL INCLUSIVE CAMPUS OVERVIEW	6
2.1 INTRODUCTION OF THE VIRTUAL INCLUSIVE CAMPUS (VIC)	6
2.2 GENERAL DISCRPTION OF VIC FUNCTIONS	8
2.3 SYSTEM ARCHITECTURE	15
2.4 CAMPUS DEVELOPMENT REQUIREMENTS	16
2.5 DATA MANAGEMENT	18
2.6 USER INTERFACE	19
2.7 INTRODUCTION TO MICROSOFT TEAMS INTERFACE.....	20
2.8 CREATE A NEW REGISTERED USER.....	22
3. VIC CUSTOMIZATION	25
3.1 USER PROFILE	25
3.2 TEAMS CONFIGURATION.....	25
3.3 TURN ON/OFF ANIMATIONS	30
4. SET UP A NEW COURSE	33
5. ADDING MEMBERS TO A COURSE	37
5.1 USER ROLES	37
6. COURSE HOMEPAGE	40
7. CLASS NOTEBOOK	42
7.1 DEFINITIONS	42
7.2 COMMON PRACTICES USING CLASS NOTEBOOK SECTIONS	42
7.3 SETUP A CLASS NOTEBOOK.....	43
8. COURSE CHANNELS	48
8.1 CREATE A NEW CHANNEL.....	48
8.2 SET UP A PRIVATE CHANNEL	49
8.3 CHANNEL POSTS.....	52
9. ASSIGNMENTS	58
9.1 TEACHER – CREATE AND PUBLISH AN ASSIGNMENT	58
9.2 STUDENT TURNING IN AN ASSIGNMENT	66
9.3 CREATE RUBRICS AND EVALUATION CRITERIA.....	67
9.4 RETURN TURNED-IN ASSIGNMENTS	68
9.5 CREATE A QUIZ WITH MS FORMS	70
10. GRADES	72
11. REFLECT	74
12. EDUCATION INSIGHTS	78



13. ONLINE CLASSES	80
13.1 PARTICIPANT ROLES	80
13.2 MEET NOW IN A CHANNEL	81
13.3 NEW MEETING FROM THE CALENDAR TOOL.....	82
13.4 SCHEDULE AN ONLINE MEETING FOR A COURSE CHANNEL.....	84
13.5 MASTERING ONLINE MEETINGS.....	85
13.6 SHARING SCREEN AND CONTENTS IN A MEETING	87
13.7 BREAKOUT ROOMS FOR SMALL GROUP DISCUSSIONS.....	88
14. DOCUMENTS, COLLABORATION AND OTHER 3RD PARTY TOOLS.....	91
14.1 USING THE WHITEBOARD	91
14.2 PDF AND ONENOTE FILE VIEWERS.....	92
14.3 3RD PARTY TOOLS INTEGRATION	93
15. CLONING A COURSE	95
16. ACRONYMS USED	96
17. REFERENCES.....	96



1. INTRODUCTION

The aim of this document is to provide insights about the efficient and correct utilization of the Virtual Inclusive Campus (VIC) based on MS Teams. This document should serve as a comprehensive repository containing the essential guidelines and training materials focused on leveraging Microsoft Teams for online inclusive study purposes. Aimed at both staff and students, this documentation is designed to facilitate a seamless transition to digital learning environments, enhance collaborative efforts, and optimize the educational experience within the AFID project partner institutions. Through detailed instructions, best practice recommendations, and user-friendly training modules, readers will be prepared with the knowledge and tools necessary to effectively navigate and utilize VIC. This guide will support students and staff toward achieving educational excellence and promoting a dynamic, interactive learning community using the MS Teams interface currently updated to the 2024 version.

It is worth noting that the specific features discussed might vary depending on the organization's Microsoft 365 subscription, settings and version.

The document covers a comprehensive guide to using VIC platform, focusing on the Microsoft Teams. It begins with an introduction to VIC and an overview of the Microsoft Teams interface. Subsequent sections delve into customization options, including configuring user profiles and Teams settings. The guide then explains how to set up a new VIC course, add members to the course, and design the course homepage. It also provides detailed instructions on using Class Notebooks for course content organization and collaboration. Course channels are explored, with guidance on creating new channels, setting up private channels, and managing channel posts. The document further outlines the process of creating, publishing, and grading assignments, including the use of rubrics and evaluation criteria. It also covers the creation of quizzes using Microsoft Forms and managing grades within Teams. Additionally, the guide offers insights into reflections, education insights, and conducting online classes through Teams, covering participant roles, meeting scheduling, screen sharing, and breakout room functionality. It concludes with sections on document collaboration, course cloning, acronyms used, and references, providing a comprehensive resource for educators utilizing Microsoft Teams for virtual instruction.

Teachers and instructors are suggested to read all the documentation.

Regarding students, they can go directly into main related sections:

2. VIC overview: this section introduces the online platform interface, laying the groundwork for students to understand how to navigate the platform effectively.
5. Adding Members to a Course: Although primarily focused on instructors adding students to courses, students may also find this section relevant as it pertains to their enrollment and access to course materials.
6. Course Homepage: This section may include information pertinent to students regarding accessing course resources, announcements, and updates shared by the instructor on the course homepage.
7. Class Notebook: Students can benefit from understanding how to use Class Notebooks for organizing course materials, accessing content, and engaging in collaborative note taking.
9. Assignments: Several sub-sections within the Assignments section are directly relevant to students, such as "9.2 Student Turning in an Assignment". This portion guides students through the process of submitting assignments within Teams.



10. Grades: Students can learn about how grades are managed within Teams, including viewing their grades, feedback from instructors, and overall performance in the course.

11. Reflect: While primarily aimed at instructors for self-assessment and improvement, students may also find value in understanding how reflection can enhance their learning experience.

13. Online Classes: Sections related to participant roles, scheduling meetings, participating in online sessions, and utilizing breakout rooms offer guidance to students on effectively engaging in virtual class sessions conducted through Teams.



2. VIRTUAL INCLUSIVE CAMPUS OVERVIEW

2.1 INTRODUCTION OF THE VIRTUAL INCLUSIVE CAMPUS (VIC)

The Virtual Inclusive Campus (VIC) is a concept that takes the principles of inclusivity and diversity from physical campuses to the digital world, particularly in the context of online education and virtual learning environments. The goal is to create a digital campus experience that is accessible, welcoming, and supportive for all students, regardless of their physical location, socio-economic status, ability, ethnicity, gender, or any other characteristic that might traditionally influence their educational opportunities and experiences. Here's a breakdown of the primary objectives:

1. Enhance Accessibility. To remove physical and logistical barriers to education by ensuring that all students, including those with disabilities, can access and fully participate in learning activities, course materials, and student services.

2. Promote Diversity and Inclusion. To foster a learning environment that values and respects diversity in all its forms, including but not limited to race, ethnicity, gender, sexual orientation, age, socioeconomic status, disability, and religion. This involves incorporating diverse perspectives and experiences into the curriculum and promoting cultural competence among both students and faculty.

3. Support Equity in Education. To address and mitigate disparities in educational opportunities and outcomes by providing resources, support, and adjustments tailored to meet the individual needs of students. This includes addressing the digital divide by ensuring all students have access to the necessary technology and internet connectivity.

4. Facilitate Social Connection and Community. To create virtual spaces that enable students to connect, collaborate, and build community, recognizing the importance of social interaction and support in student success and well-being.

5. Adapt to Learner Needs. To offer flexible learning pathways and schedules that accommodate the diverse life circumstances and learning preferences of students, including asynchronous learning options and personalized learning experiences.

6. Foster Personal and Professional Growth. To provide comprehensive support services, such as career counseling, mental health services, and academic advising, that are easily accessible online and designed to support students' personal development and professional aspirations.

7. Cultivate a Safe and Supportive Environment. To establish and enforce policies and practices that ensure a safe online environment free from harassment, discrimination, and bias, where every student feels valued and respected.

In essence, the aim of a VIC is to reimagine and expand the principles of inclusivity and equity in the digital domain, ensuring that high-quality education is not just available but also adaptable, supportive, and enriching for every student, regardless of their starting point.



Key features and goals of a VIC include:

- 1) **Accessibility.** Ensuring that all digital content is accessible to students with disabilities, including those who require screen readers, captioning, or other assistive technologies.
- 2) **Cultural Inclusivity.** Incorporating a diverse range of perspectives in course content and offering materials that reflect the experiences and histories of various cultural and ethnic groups. This also means having a diverse faculty and providing support for learning in multiple languages where possible.
- 3) **Social Engagement.** Facilitating opportunities for students to engage with each other and form communities, despite the physical distances between them. This can include virtual clubs, online discussion forums, and social media groups.
- 4) **Academic Support.** Offering a range of academic support services tailored to the needs of a diverse student body, such as tutoring, mentoring, and counseling, all accessible through digital means.
- 5) **Flexible Learning Options.** Recognizing the diverse needs and schedules of students, including part-time learners, working adults, and those in different time zones, by offering asynchronous learning options, flexible scheduling, and personalized learning paths.
- 6) **Technology Equity.** Addressing the digital divide by providing or facilitating access to the necessary technology and high-speed internet required for online learning.
- 7) **Policies and Practices.** Implementing policies that support inclusivity and diversity, such as non-discrimination policies, accommodations for religious observances, and procedures for addressing bias and harassment.

Creating a VIC requires a deliberate and ongoing effort from institutions to ensure that their online environments are just as welcoming and supportive as their physical campuses, if not more so. This involves not only leveraging technology but also fostering a culture of inclusion and respect among students, faculty, and staff.

The purpose of the VIC is to set a new model for collaboration of the universities in Ukraine by offering modern educational services through a joint digital platform with a focus on inclusivity, availability, innovative educational approaches, and high-quality of services. This will require a common vision of the project partners on all aspects of the operations of the VIC, offered services, user support as well as further growth and sustainability.

The VIC is focused on providing the prerequisites for the introduction of inclusive digital education, accessible to various types of users and diversified in terms of content and forms, both in the format of a selective component of educational programs of partner higher education institutions and in the format of certification programs. Online courses that meet the needs of inclusivity, available online and with flexible schedules, bilingual, subtitled, equipped with instant messaging facilities, close to the needs of students with visual, hearing, mobility limitations, etc., allow users to choose the most appropriate way of learning, starting from the personal type of inclusiveness.

This document shall provide the VIC overview with system architecture, development, and data management requirements.



2.2 GENERAL DISCRIPTION OF VIC FUNCTIONS

The VIC is accessible at <https://afid.knute.edu.ua>. The virtual campus is implemented as a complex of standalone web application, which is a cover of the campus, and the core contains the inclusive online courses allocated at the servers of partner universities and accessible through MS Teams application. The cover application is located on the server of one of the consortium partner universities, which is responsible for maintaining the web application. The address where the web application will be available contains the abbreviation of the VIC campus (<https://vic.hneu.edu.ua>).

This section contains a description of the campus functions from the point of view of three categories of its users:

- students at the consortium partner universities and other educational institutions in the future;
- professors from the consortium partner universities;
- administrators from the consortium partner universities;
- the main administrator of the campus.

Campus functions for students:

1. The main page of the campus contains a catalog of online educational courses with inclusion support from the partner universities of the consortium (fig. 2-1).
2. The catalog of online courses is organized by providers (consortium partner universities) and keywords. The catalog should contain its title, cover image, and the provider's name for each online course. The main page of the campus also includes a field for searching for a course by name or keywords.
3. As a visitor to the web application, a student can select an online course in the catalog to receive descriptive and additional information from the online course page.
4. The online course page is implemented as a separate page of the web application and contains the following information (fig. 2-2):
 - course title;
 - title image;
 - provider university;
 - availability for student applications;
 - terms of enrolment in the course;
 - authors/developers;
 - course length in credits;
 - for whom it is recommended (level, specialty, etc.);
 - course prerequisites;
 - course description;
 - learning outcomes;
 - information on inclusion support;
 - course syllabus (link to download in pdf format);
 - video about the course if available.



Figure 2-1. Catalog of online educational courses

BUSINESS ENGINEERING

AFID Academic Freedom and Inclusion through Digitalization

Co-funded by the European Union

OKSANA TRUBEI
PhD in Economics, Associate Professor

BUSINESS ENGINEERING

STATE UNIVERSITY OF TRADE AND ECONOMICS

University Provider: State University of Trade and Economics

Course available from: Jan. 1, 2025

Enrollment in the course: twice a year (January, August)

Authors: Oksana TRUBEI PhD in Economics, Associate Professor

Course Credits: 6.0 ECTS Credits



Recommended For: for everyone interested in modern methods and tools for systematizing business to enhance its manageability and economic efficiency.

Course Prerequisites: knowledge of economic terminology, fundamentals of entrepreneurship, business economics, management, marketing, and business planning.

Course overview ^

The business engineering course covers:

- general principles of the engineering approach to creating and managing businesses;
- peculiarities of developing (generating) a business idea;
- algorithms and technologies for creating an effective business model for the enterprise;
- formation of a system of business processes within the chosen business model and methods of their optimization.

The course provides specialized knowledge about the concept, opportunities, and tools of engineering.

Learning Outcomes v

Inclusion Support v

Syllabus

[Register for Course](#)



Figure 2-2. Information of the course

5. If the online course is available, you will need to click the “Register for Course” button at the bottom of the online course card to submit applications from students, after which a form with the following fields will appear (* - required) (fig. 2-3):

- Full name*;
- Date of birth;
- gender*;
- e-mail;
- educational institution* (choice among partner universities);
- level of education*;
- specialty*;
- educational programme* (please specify);
- comment (additional information, motivation for choosing a course).



[Return to Course Description](#)

First name*:	Last name*:
<input type="text"/>	<input type="text"/>
Gender*:	Birthday*:
<input type="text" value="Male"/>	<input type="text" value="mm/dd/yyyy"/>
E-mail*:	
<input type="text"/>	
Educational institution*:	
<input type="text" value="State University of Trade and Economics"/>	
Education level*:	
<input type="text" value="Bachelor's degree"/>	
Specialty*:	
<input type="text"/>	
Educational program*:	
<input type="text"/>	

Figure 2-3. Registration on the course

Upon completion of the application process, the student will receive an email confirming or rejecting the application for enrolment in the online course (fig. 2-4).

Comment:

I agree to the processing of personal data



Figure 2-4. Confirmation of the course



6. The student can fill in the online course application form and submit it for consideration using the appropriate button at the bottom of the form.
7. Upon receipt of the application, the campus registers the application and sends the student a letter to the email address provided confirming receipt of the application.
8. The campus online course page at the bottom contains social widgets that allow campus visitors to perform the following actions: 1) share information about the course on social media and messengers; 2) leave a comment on the course or take part in its commenting.
9. The status of an application for an online course can take on one of the following values:
 - “Submitted” (the application for the online course has been submitted by the student, this is the initial status of the application);
 - “Rejected” (the application was rejected by the Supervisory Committee);
 - “Accepted” (the application has been accepted by the Supervisory Committee and the student has been sent information about access to the online course);
 - “Completed” (the student has successfully completed the online course according to the application).
10. The campus pages give the possibility to use inclusive functionality. Campus pages make it possible to use inclusive functionality due to the addition of a widget. This widget provides a mobile app functionality that allows users to zoom in on text and images, color adjustments, and tools such as a “Reading guide”, “Stop animation”, and “Big cursor”.

The full functionality of the widget is shown in the fig. 2-5 and 2-6.

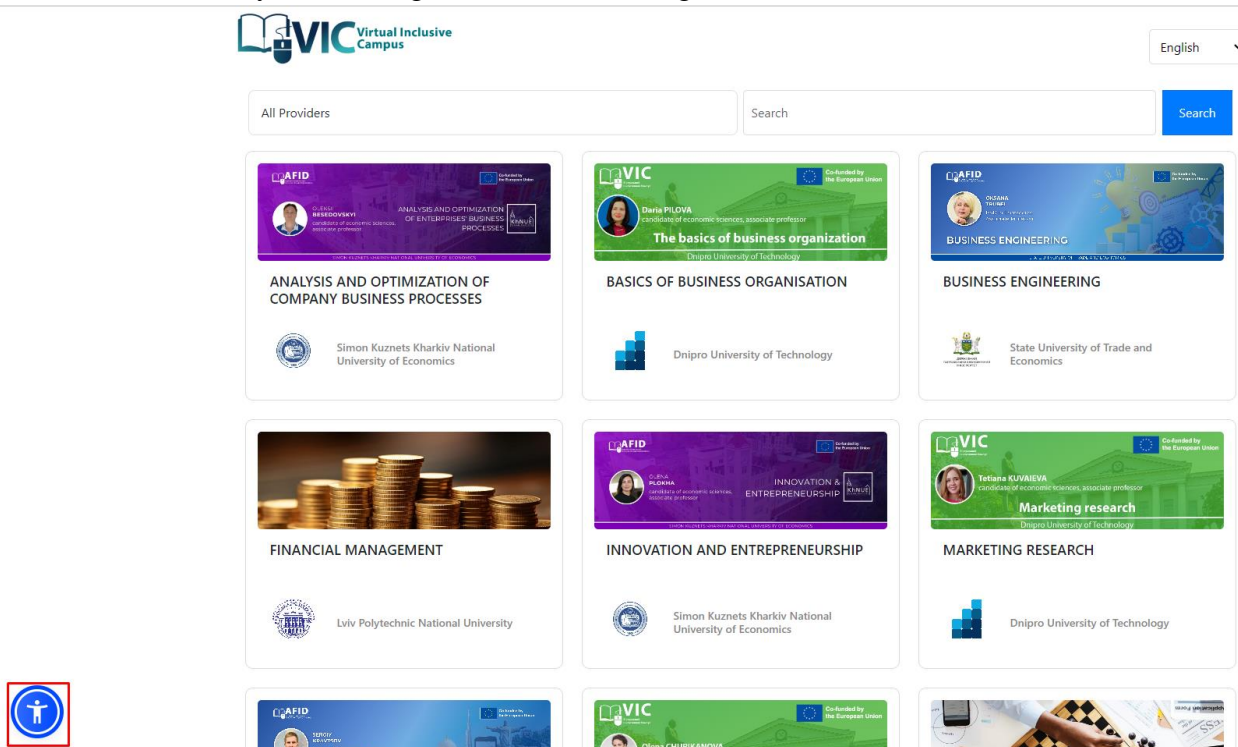


Figure 2-5. VIC providers

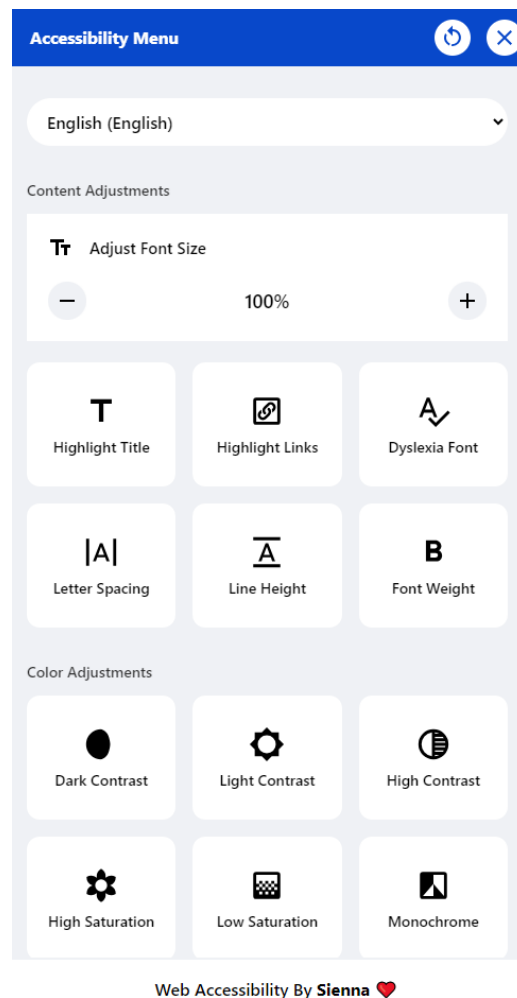


Figure 2-6. Accessibility menu

Campus functions for professors from the consortium partner universities:

1. Professors from the partner universities of the consortium have access to the administrative section of the campus, which is available through the web interface at <https://vic.hneu.edu.ua/admin>.
2. In the administrative section of the campus, professors from the partner universities of the consortium can manage information about their online courses, which are reflected in the catalogue of online courses of the campus: change information about the online course.
3. Professors from partner universities also have access to the student application dashboard. The dashboard contains a list of student applications for online courses of this professor. The professor can filter applications by their status and online courses.
4. Professors from partner universities can change the status of their courses' applications as follows: "accepted" → "completed" (the professor can generate a certificate of successful completion of the course using a template and send a letter to the student with information about the certificate).
5. Professors from partner universities have the opportunity to make changes to the templates of letters about changes in the application status and the template of the certificate of successful completion of the course.



6. The campus provides the ability to generate certificates based on the results of completing online courses when the application status is changed to “completed”. Each certificate is assigned a unique number and a permanent URL. The campus must ensure that the certificates are permanently stored and accessible via the URL.

Campus functions for administrators from the consortium partner universities:

1. Administrators from the partner universities of the consortium have access to the administrative section of the campus, which is available through the web interface at <https://vic.hneu.edu.ua/admin>.

2. In the administrative section of the campus, administrators from the partner universities of the consortium can manage information about online courses of their universities, which are reflected in the catalogue of online courses of the campus:

- create new online courses
- delete online courses
- change information about the online course
- hide/make available online courses for the campus course catalogue
- open/close the availability of an online course for student applications

3. Administrators from partner universities also have access to the student application dashboard. The dashboard contains a list of student applications for online courses from the provider to which the administrator from the partner universities belongs. The administrator can filter applications by their status and online courses.

4. Administrators from partner universities can change the status of applications as follows:

- “submitted” → “rejected” (a letter is automatically sent to the student notifying him/her of the application rejection according to the template, the administrator can make changes to the text of the letter);
- “submitted” → “accepted” (an email is automatically sent to the student with a notification of acceptance of the application using a template, the administrator can make changes to the text of the email)
- “accepted” → “completed” (the administrator can generate a certificate of successful completion of the course using a template and send a letter to the student with information about the certificate).

5. Administrators from partner universities have the opportunity to make changes to the templates of letters about changes in the application status and the template of the certificate of successful completion of the course.

6. The campus provides the ability to generate certificates based on the results of completing online courses when the application status is changed to “completed”. Each certificate is assigned a unique number and a permanent URL. The campus must ensure that the certificates are permanently stored and accessible via the URL.

7. Administrators from partner universities can create personal accounts for professors from their universities.

Campus functions for the main administrator:



1. The main administrator has access to the administrative section of the campus using his/her personal login/password, which is available through the web interface at <https://vic.hneu.edu.ua/admin>.
2. The main Campus Administrator can create/modify/delete campus partner universities.
3. The main campus administrator can create personal accounts for administrators from the consortium partner universities.
4. The main campus administrator can change the status of applications as follows:
 - “submitted” → “rejected” (a letter is automatically sent to the student notifying him/her of the application rejection according to the template, the administrator can make changes to the text of the letter);
 - “submitted” → “accepted” (an email is automatically sent to the student with a notification of acceptance of the application using a template, the administrator can make changes to the text of the email).
5. The administrative section of the campus for the main campus administrator also provides the ability to make changes to all objects in the campus database.

2.3 SYSTEM ARCHITECTURE

Designing an educational digital system as a web application requires careful consideration of various architectural components to ensure scalability, security, performance, and user-friendliness. Here are the system architecture requirements for the virtual campus:

1. User Authentication and Authorization:
 - Implement a robust authentication system.
 - Define role-based access control to manage user permissions.
 - Ensure user data privacy and compliance with relevant regulations (e.g., GDPR).
2. Database Management:
 - Use a relational database system based on data structure and query requirements.
 - Implement data replication and backup mechanisms for data resilience.
 - Optimize database queries for efficient data retrieval.
3. Application Security:
 - Implement robust security measures to protect against common web application vulnerabilities (e.g., SQL injection, cross-site scripting).
 - Regularly update and patch software components.
 - Conduct security audits and penetration testing.
4. Front-End Development:
 - Use modern front-end frameworks for responsive and interactive user interfaces.
 - Ensure accessibility for users with disabilities.
5. Back-End Development:
 - Use a programming language (e.g., Python, Node.js, Ruby) and MVC framework for the server-side logic.
 - Optimize API endpoints for performance and security.
6. Communication and Collaboration:
 - Implement real-time communication features like chat, forums, and discussion boards.



- Ensure secure communication using encryption protocols (HTTPS, WebSocket).
- 7. Monitoring and Logging:
 - Set up comprehensive monitoring and logging systems to track application health and performance.
 - Implement alerts for unusual activity and errors.
- 8. Mobile Compatibility:
 - Ensure the application is responsive and mobile-friendly for a seamless user experience on various devices.
- 9. Disaster Recovery:
 - Develop a disaster recovery plan with regular backups and failover mechanisms to minimize downtime in case of system failures.
- 10. Testing and Quality Assurance:
 - Implement automated testing and continuous integration/continuous deployment (CI/CD) pipelines.
 - Conduct regular performance testing to ensure optimal user experience.
- 11. User Support and Feedback:
 - Provide a user support system and feedback mechanisms for users to report issues and request assistance.
- 12. Accessibility:
 - Ensure the application complies with accessibility standards (e.g., WCAG) to accommodate users with disabilities.
- 13. Integration:
 - Support integration with other educational systems, such as Learning Management Systems (LMS), student information systems, and external services.

2.4 CAMPUS DEVELOPMENT REQUIREMENTS

The Model-View-Controller (MVC) architectural pattern was chosen as the backend architectural pattern to develop a well-structured, secure, and maintainable backend for the campus web application. The MVC architectural pattern is instrumental in the development of an educational web application as it provides a structured framework for organizing and managing the application's components. In this context, the Model represents the data and business logic, facilitating the storage and manipulation of educational materials, user information, and learning progress. The View focuses on the user interface, ensuring an engaging and user-friendly experience by displaying course content, interactive features, and feedback. The Controller acts as the intermediary, handling user requests, processing them, and interacting with the Model to retrieve or modify data before presenting it through the View. By implementing MVC, the educational web application achieves separation of concerns, enabling easier maintenance, scalability, and code reusability while offering a cohesive and organized environment for both educators and students to interact with educational content effectively.

Django is an excellent framework for building web applications following the MVC pattern in Python. Django offers distinct advantages over many other MVC frameworks due to its high-level abstraction and extensive feature set, making it a compelling choice for web development. Its “batteries-included” philosophy provides a comprehensive package of tools for building web applications, including a robust ORM, authentication, security features, and an admin interface, which accelerates development and reduces boilerplate code. The strong community and ecosystem



surrounding Django offer a wealth of resources and third-party packages, enhancing productivity. Django prioritizes security by default, making it harder for developers to introduce vulnerabilities. Its emphasis on convention and consistency results in a structured and maintainable codebase. The versatile ORM, comprehensive documentation, built-in testing framework, and multilingual support further contribute to Django's appeal. While other MVC frameworks have their strengths, Django's combination of features, security, and community support positions it as a top choice for building web applications.

Here are the requirements for the campus backend development using the MVC template in Django:

1. Model Layer:
 - Define data models for the application using Django's Object-Relational Mapping (ORM).
 - Implement database migrations to manage schema changes and versioning.
 - Ensure proper data validation, constraints, and integrity at the database level.
 - Implement user authentication and authorization using Django's built-in authentication system.
2. View Layer:
 - Create views that handle HTTP requests, perform necessary data processing, and interact with the model.
 - Use Django's class-based views or function-based views as appropriate for the application's complexity.
 - Ensure separation of concerns by keeping business logic out of views.
 - Implement security measures to protect against common web vulnerabilities (e.g., Cross-Site Scripting, Cross-Site Request Forgery).
3. Controller Layer:
 - Define URL patterns and routing using Django's URL dispatcher.
 - Map URLs to view functions or classes, creating a logical structure for your application.
 - Implement middleware for custom request and response processing, such as logging, authentication checks, and CORS handling.
4. Database Management:
 - Configure the database connection settings and MySQL database engine as per project requirements.
 - Optimize database queries and indexing for efficient data retrieval.
 - Utilize Django's built-in tools for managing database migrations.
5. API Development:
 - Create RESTful APIs for data retrieval and manipulation, exposing application functionality.
 - Use Django REST framework for building RESTful APIs.
 - Implement serialization and deserialization for data transfer between the server and clients.
6. Middleware:
 - Develop custom middleware for tasks like authentication, logging, and request/response processing.
 - Utilize existing middleware for features like security headers and request/response modification.



7. Error Handling and Logging:
 - Set up a robust error-handling mechanism to gracefully handle exceptions and errors.
 - Implement logging for debugging and monitoring purposes, specifying log levels and destinations (e.g., file, console, remote log aggregators).
8. Security:
 - Implement security best practices, including authentication, authorization, and input validation.
 - Use Django’s built-in security features like Cross-Site Request Forgery (CSRF) protection and Content Security Policy (CSP).
 - Regularly update Django and its dependencies to address security vulnerabilities.
9. Testing:
 - Develop unit tests, integration tests, and functional tests to ensure the reliability of the application.
 - Implement test fixtures and use testing libraries like Django’s testing framework and tools like pytest.
10. Documentation:
 - Maintain comprehensive documentation for the backend codebase, including API documentation for developers who will consume your services.
11. Dependency Management:
 - Use a package manager like pip to manage Python dependencies and versions.
 - Define dependencies in a requirements.txt file and consider using a virtual environment.
12. Version Control and DevOps:
 - Utilize version control systems (e.g., Git) for code management and collaboration.
 - Implement branching and merging strategies, and maintain a clean commit history.
 - Set up a continuous integration/continuous deployment (CI/CD) pipeline for automated testing and deployment.

2.5 DATA MANAGEMENT

Effective data management is crucial to the success of an educational web application, as it directly impacts user experience and data security. Adhering to best practices in data modeling, query optimization, and security measures helps ensure that the application can efficiently manage and safeguard educational content and user information. Here are the data management requirements for the virtual campus:

1. Data Modeling and Schema Design:
 - Define clear and well-structured data models to represent educational content, user information, and relationships between them.
 - Use Entity-Relationship Diagrams (ERDs) to visualize data structures and define tables, fields, and their relationships.
 - Create normalized database schemas to reduce redundancy and improve data integrity while considering the specific needs of your application. For example, you might have tables for courses, users, assignments, and user enrollments.
 - Implement proper indexing and constraints to enhance data retrieval and enforce data consistency.
2. Data Access and Query Optimization:



- Develop efficient database queries to retrieve and manipulate data. Utilize the power of SQL and take advantage of the relational nature of the database.
- Utilize the Object-Relational Mapping (ORM) framework provided by your web application framework (e.g., Django’s ORM) for seamless interaction with the database.
- Implement caching mechanisms to reduce database load for frequently accessed data, such as course materials or user profiles.
- Monitor and optimize database performance, including query execution time, indexing, and query plan analysis, to ensure fast response times even as data volume grows.

3. Data Security and Compliance:

- Implement robust data security measures to protect sensitive educational data. Ensure that user passwords are securely hashed and stored, and use encryption for data in transit.
- Enforce data access controls, role-based permissions, and authorization rules to restrict access to certain parts of the application and data.
- Ensure compliance with relevant data protection regulations, such as GDPR, FERPA, or COPPA, depending on the application’s user base and geographic reach.
- Regularly perform data backups and implement disaster recovery plans to prevent data loss in case of system failures.

2.6 USER INTERFACE

When designing the user interface for an educational web application using the Model-View-Controller (MVC) pattern, incorporating the Bootstrap framework can greatly enhance the design and user experience. Bootstrap is a popular choice for building web applications due to its versatility, efficiency, and extensive feature set. It offers a comprehensive framework of pre-designed, responsive components and styles that accelerate development, making it accessible for developers of all levels of expertise. Bootstrap’s responsive grid system ensures consistent and visually appealing user interfaces across various devices, from desktops to mobile phones. It also promotes accessibility and follows best practices for inclusive web design. With active development and a large community of users and contributors, Bootstrap provides ongoing support, making it a reliable choice for creating modern, user-friendly, and aesthetically pleasing web applications while significantly reducing the time and effort required for design and development.

Accessibility is a fundamental consideration in Bootstrap, making it an inclusive framework for web development. Bootstrap is designed with a strong commitment to compliance with accessibility standards such as WCAG (Web Content Accessibility Guidelines). It provides a range of features and practices to ensure that web applications built with Bootstrap are usable by individuals with disabilities. This includes semantic HTML elements, ARIA (Accessible Rich Internet Applications) roles and attributes, and keyboard navigation support. Bootstrap’s focus on accessibility helps developers create web applications that are more inclusive and can be used effectively by a wider audience, regardless of their physical abilities or assistive technologies.

Enlist user interface requirements with the MVC pattern and Bootstrap:

1. View Layer:

- **Responsive Design:** Implement a responsive design to ensure the application looks and functions well on various screen sizes, including desktops, tablets, and mobile devices.
- **Consistent Layout:** Utilize Bootstrap’s grid system to establish a consistent layout structure for web pages, providing a visually appealing and organized appearance.



- Modular Components: Leverage Bootstrap’s pre-built UI components (e.g., navigation bars, buttons, forms) to create modular and consistent elements across the application.
2. User Experience:
 - User-Friendly Interface: Design a user-friendly interface that is easy to navigate and understand, with clear menu structures and intuitive user interactions.
 - Interactive Elements: Use Bootstrap’s JavaScript components to create interactive features like modals, tooltips, and accordions for engaging user experiences.
 - Accessibility: Ensure that the user interface complies with accessibility standards, such as WCAG, to accommodate users with disabilities.
 3. Aesthetics:
 - Customization: Customize Bootstrap’s default styles to match the branding and visual identity of the educational institution or application.
 - Typography: Utilize Bootstrap’s typography classes to ensure readable and visually pleasing text throughout the application.
 4. Cross-Browser Compatibility:
 - Browser Compatibility: Bootstrap ensures cross-browser compatibility, reducing the need for extensive browser-specific CSS adjustments and bug fixes.

Incorporating Bootstrap into your MVC-based educational web application ensures a modern, user-friendly, and visually appealing user interface that can be developed efficiently and maintained effectively, helping to enhance the overall user experience, regardless of their physical abilities or assistive technologies.

2.7 INTRODUCTION TO MICROSOFT TEAMS INTERFACE

As VIC is based on MS Teams, an effective introduction to the Microsoft Teams interface is essential for users to navigate and utilize the platform efficiently. This section will cover the fundamental aspects of the MS Teams interface, providing users with a solid foundation to explore its features and functionalities.

The MS Teams provides multiple tools to interact among the student’s learning community and staff of any partner institution.

Let us describe briefly the components of Teams interface, available in the left panel shown below (table 2-1).

Table 2-1. Components of Teams interface available in the left panel

Left-panel icons	Components of Teams interface
Activity	<p>Activity Feed: the main notification center, where the user can find mentions, replies, and other important activity across all related teams and channels. All related VIC courses will publish information here; therefore, it is the first place to check for updates and interactions in the VIC.</p>
Chat	<p>Chat Function: The chat feature allows for direct messages to individuals or groups outside of the structured team or channel environment. This is ideal for quick questions, informal conversations, or discussions that do not need a dedicated channel.</p>
Teams	<p>Teams List: These are groups of people brought together for work, projects, or common interests. In the VIC, in general a team will be created for each course. Each team/course can be broken down into specific topics or work streams (channels). Channels are dedicated sections within a team/course to keep conversations organized by specific topics, projects, or disciplines.</p>
Calendar	<p>Calendar: This feature allows to view the user schedule, join meetings directly, and schedule new meetings.</p>
Calls	<p>Calls: Teams offers a call function where you can make audio or video calls directly to your contacts within Teams. This feature supports one-on-one calls as well as group calls (for example, to a course group of students).</p>
OneDrive	<p>OneDrive Files: These sections store all the files shared across your Teams and channels. It integrates with OneNote and OneDrive, allowing for seamless file sharing and collaboration.</p>
Apps	<p>Apps and Integrations: Microsoft Teams allows for the integration of various third-party apps and services, enhancing its functionality. Users can add apps to their Teams environment to customize their workspace and workflow.</p>

Additionally, there are other common tools provided in the Teams interface:

- **Search Bar:** Located at the top of the Teams interface, the search bar (fig. 2-7) allows users to find messages, people, files, and even commands.

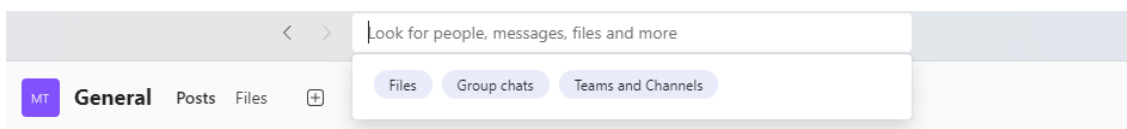


Figure 2-7. Search Bar on Teams

- **Profile and Settings:** Accessible by clicking on the user profile picture at the top right, this area lets you set your status, access settings, and customize other items such as language, notification preferences, etc.
- **Help and Feedback:** Often represented by a question mark icon, provides access to Microsoft Teams tutorials, help articles, and the ability to provide feedback directly to Microsoft.

Although the VIC interface is based on Microsoft Teams, the full explanation of all the features of the tool is beyond the scope of this document. In the following sections, the description of the tool focused on online learning will be specified and customized.



2.8 CREATE A NEW REGISTERED USER

This section deals with the registration steps for a new user of the VIC. First step is to register the user email account in the Microsoft services. For that, close any open session and in the login page, click on the plus sign + to add another user account (fig. 2-8), and take into consideration that these figures depend on the OS system language, currently in Spanish.

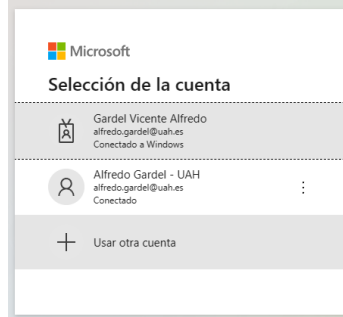


Figure 2-8. Login window – option to use/add another account

Then, in the start new session, to set up a new user account not registered before, you must click on “create an account” (fig. 2-9).

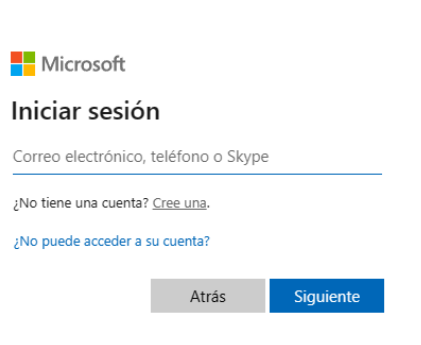


Figure 2-9. Login window – not registered then create a new account

Next step is to provide the email for the new account, click next and introduce name, birth date and click next again (fig. 2-10).

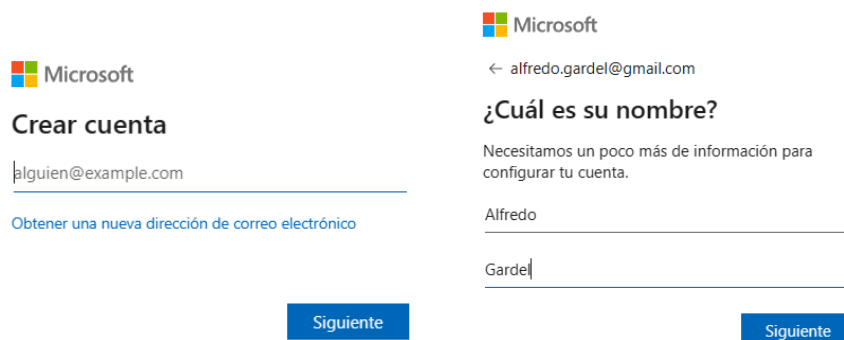


Figure 2-10. New account – email and user data

Finally, the system sends an email with a code to authenticate and validate the new user email (fig. 2-11), plus a non-robot question to be solved.

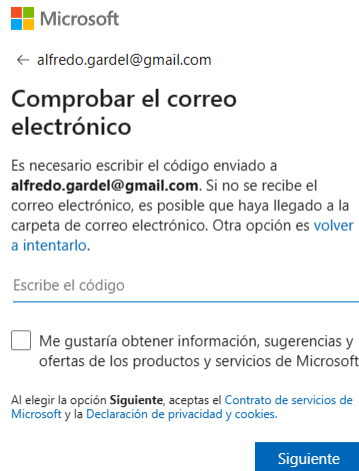


Figure 2-11. Verification step for the registered email

Once registered the new user, the browser offers to select that user account to login Teams – VIC. Now, entering Teams for the first time we need to accept the data management of our personal information by Microsoft, then a Welcome page is shown (fig. 2-12).

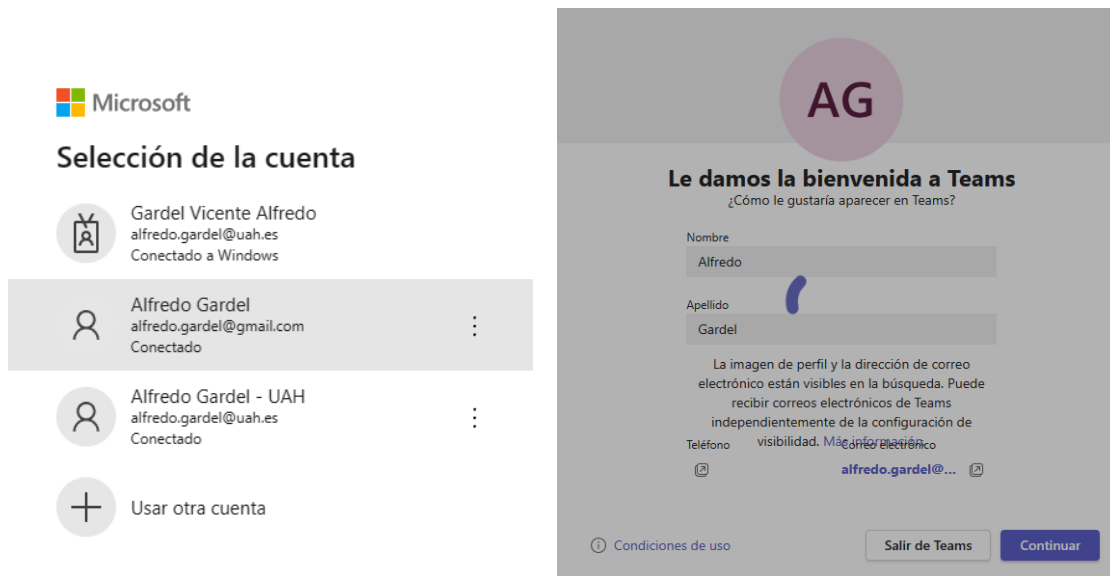


Figure 2-12. New user login and welcome window

Finally, from the user settings we can select the university teams where we have an invitation to participate in a VIC course from a given partner institution (fig. 2-13).

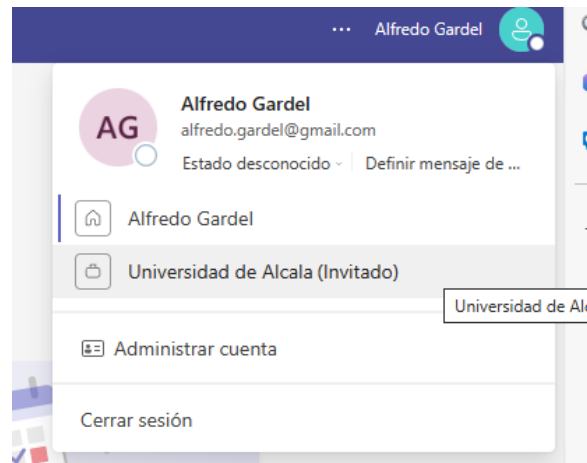


Figure 2-13. Window selection of VIC partner institution



3. VIC CUSTOMIZATION

3.1 USER PROFILE

3.1.1.1 Change user profile photo

It is recommended that each user update their profile picture. This helps identify the user to other participants during meetings or when exchanging messages and video calls. To add a new profile picture, press the button shown in Figure 3-1.

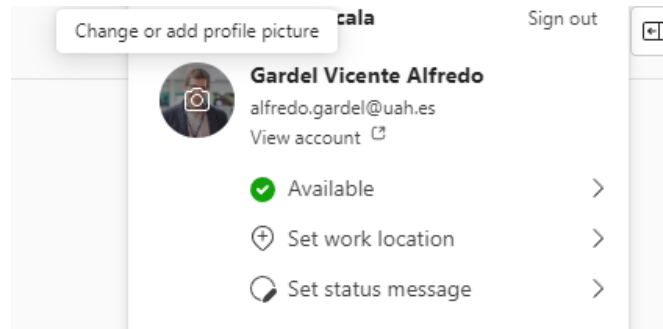


Figure 3-1. Profile picture

At startup, the system displays user name’s initials. To upload a photo or image to the user profile, the user must click on the corresponding icon, which will open a pop-up window and click on “upload image”. Then, search and select the desired image on the local computer, click “Open” and “OK”. Finally, click “Save” to the user profile, and the updated picture will appear on the Teams platform.

3.2 TEAMS CONFIGURATION

To start the configuration, click on the button displaying the three dots in the top right window corner. This action will unfold a menu of options. Navigate to “Settings” within this menu (Figure 3-2).

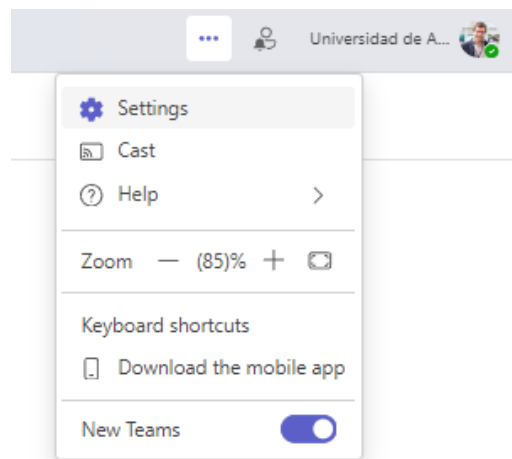


Figure 3-2. System Configuration: Settings

On the left side, various configuration categories are available. For example, in the section “Accounts and orgs” the name of the user and its main institution is shown (fig. 3-3), showing also other institutions where the users is collaborating (have a guest account on them).

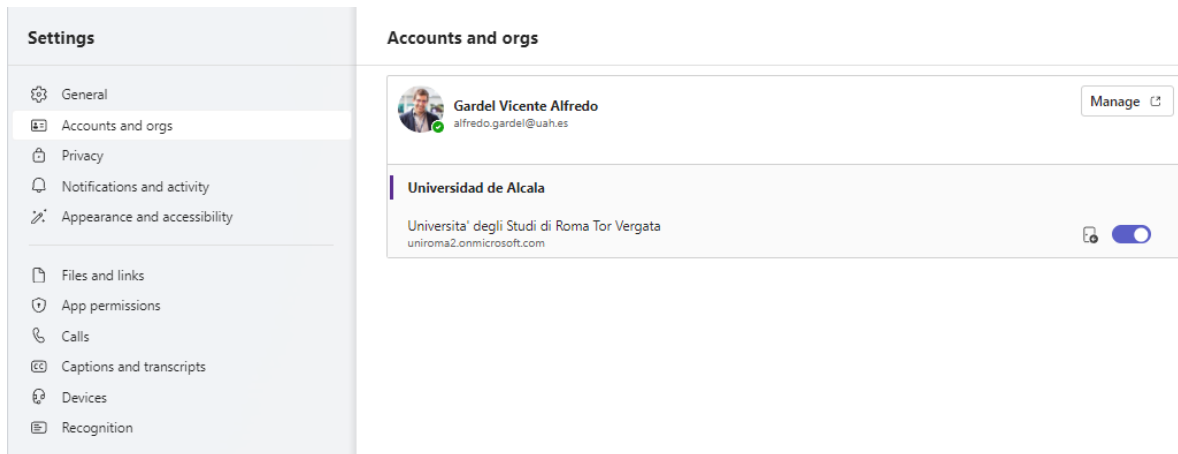


Figure 3-3. Main user's institution and collaborating institutions as guest.

In the next sections, we will focus on the “Devices” and “Appearance and accessibility” settings that are relevant for inclusivity on distance learning. Other system or user account settings are out of the scope of this documentation.

3.2.1.1 Audio/camera configuration

VIC will make intensive use of virtual meetings and online classes. Therefore, it is crucial to ensure that our sound system, microphone, and camera are functioning flawlessly on the Teams platform (fig. 3-4).

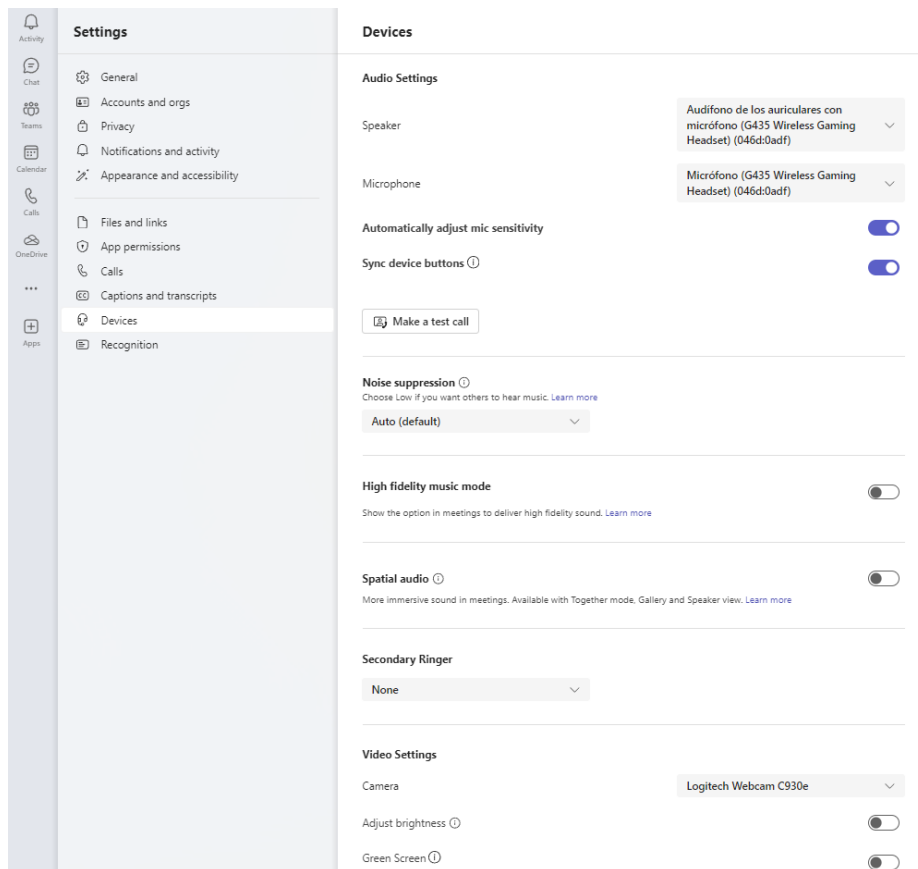


Figure 3-4. Device settings on Teams



In the “Devices” section, we can set up the default audio devices, choosing between a custom configuration or a system already integrated into our computer. Furthermore, it is possible to individually select which speaker system or microphone to use choosing from the available audio output systems.

Next, the user shall select the type of microphone to be used, ensuring it operates correctly. There is also an option to automatically adjust the microphone sensitivity, allowing the platform to make necessary adjustments for a clearer sound input.

Conducting a test call is essential, an automated process that checks if the speaker, microphone, and camera are working properly, following precise instructions to verify the correct operation of these devices.

On Teams, noise suppression can be selected, either allowing or reducing the entry of external sounds during a meeting. For instance, selecting a high suppression level will minimize background noises like the engine of a car or a dog barking. Another significant feature is the high-fidelity music mode, which, when activated, enhances the audio quality shared and enables echo cancellation. Additionally, a secondary ringtone for incoming notifications, whether from calls or messages, can be chosen.

Regarding the camera, it is possible to automatically adjust the controls or manually select the desired camera among those available on our device, thus ensuring the proper setup of our audio devices, microphone, and camera for virtual meetings.

All the adjustments are saved automatically.

3.2.1.2 Appearance and accessibility

VIC is focused on inclusivity. Therefore, the features that MS Teams provides about appearance and accessibility are very relevant.

Augmentation of the screen for inclusivity of people with low-vision.

There are several configurations available: Theme, Chat density, Layout, Sign language view, Animations, Language, Translation and Teletypewriter mode.

3.2.1.3 Theme selection

Regarding the theme selection, users can choose between different themes as shown in Figure 3-5.

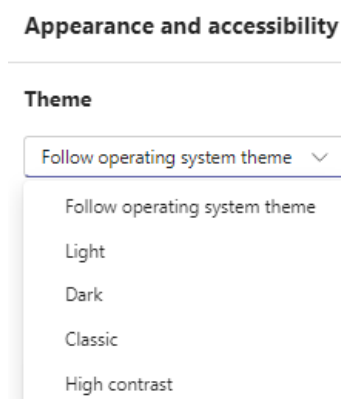


Figure 3-5. Team's theme settings



The look and feel of the Teams interface are the following themes:

- **Follow operating system:** This option allows Microsoft Teams to automatically switch between Light and Dark themes based on the system-wide theme settings of the operating system. If you change your OS theme settings from light to dark or vice versa, Teams will automatically update its theme to match. This is particularly useful for users who prefer a consistent look across all applications and the operating system.
- **Light:** The Light theme offers a brighter interface, with a light background and dark text. It is designed to be easy on the eyes in well-lit environments and is the traditional look for many software applications. The Light theme can help improve visibility and readability for some users, especially in settings with ample natural or artificial light.
- **Dark:** The Dark theme reduces the overall brightness of the Teams interface by using dark background colors and light text. This theme is especially popular in low-light conditions as it can significantly reduce glare, making it easier on the eyes during late-night work sessions. The Dark theme can also help in conserving battery life on mobile devices and laptops.
- **Classic:** This is the standard theme of Microsoft Teams. It features a balanced color scheme that leverages the primary color palette of Teams, with a mix of grays, blues, and purples. The Default theme is designed to be neutral, aiming to be visually appealing without being overly stimulating or distracting. It is suitable for most working environments and lighting conditions.
- **High Contrast:** Designed with accessibility in mind, the High Contrast theme provides a higher contrast ratio between the background and text, improving readability for users with vision impairments. This theme features more pronounced color differences and bold text, ensuring that the interface elements stand out distinctly for users who need enhanced visual accessibility.

3.2.1.4 Chat density

In Microsoft Teams, “Chat Density” refers to the option that allows users to customize how much content is displayed on their screen, particularly in chat and team conversations. This feature is designed to accommodate different preferences for readability and information density. Microsoft Teams offers two primary settings for chat density (fig. 3-6):

1. **Comfy:** The “Comfy” setting provides a more spacious layout with increased padding between messages and elements within the Teams interface. This setting is designed for users who prefer a cleaner look with more white space, making it easier to distinguish between messages and various elements on the screen. The Comfy setting is beneficial for users who prioritize readability and less cluttered content over seeing more messages at once.
2. **Compact:** The “Compact” setting reduces the space between messages and elements, allowing more content to fit on the screen at the same time. This setting is ideal for users who prefer to see more information at a glance without needing to scroll as much. The Compact density is suited for users who are comfortable with a denser information layout and want to maximize the amount of visible content.

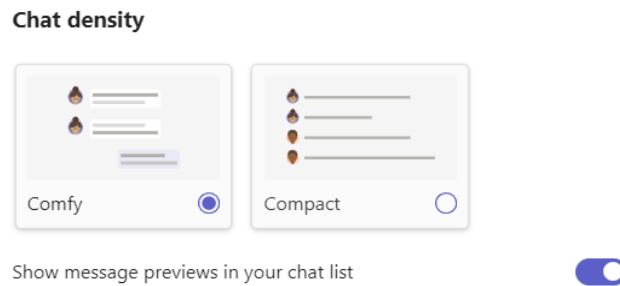


Figure 3-6. Chat density configuration

These chat density settings can be particularly useful in adjusting the Teams interface to suit individual work styles, monitor sizes, and readability preferences. For instance, someone working on a smaller screen might prefer the Compact setting to see more content, while someone with a larger monitor or who has difficulty reading densely packed information might opt for the Comfy setting.

3.2.1.5 Layout setting

In Microsoft Teams, the layout setting for viewing team channels and chats can significantly influence how users navigate and organize their workspace. Teams offers two primary layout options: Grid and List (fig. 3-7). These options allow users to customize their view based on their preference or work style, making it easier to manage and access their channels and chats.

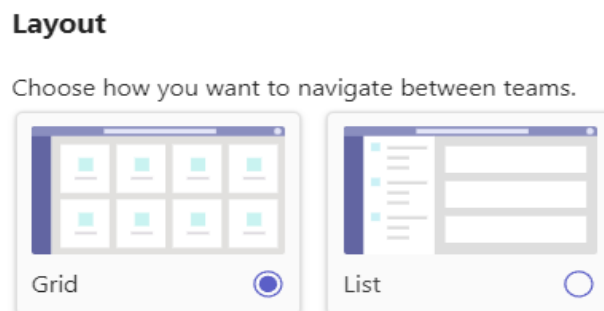


Figure 3-7. Layout configuration

- The Grid layout displays teams and channels as tiles across the screen. Each tile represents a team, with visual cues such as the team's icon, name, and possibly the number of unread messages or activity indicators. This layout is visually engaging and makes it easy to identify and select teams using their graphical representations. Grid layout is particularly useful for users who are visual-oriented and prefer to see everything at a glance. It is also beneficial when the number of teams is manageable, and visual recognition can speed up navigation. The graphical nature of this layout makes it appealing for users who appreciate this kind of interface.
- The List layout organizes teams and channels in a vertical list. This approach offers a more straightforward, text-based representation, showing the names of teams and channels in a hierarchical list format. The List layout may also include indicators for new activity or unread messages next to each channel or team name. It is ideal for users who prefer a more traditional, text-driven navigation method. It is particularly effective for users managing a large number of teams and channels, as it allows for quick scrolling and easier organization. The List layout supports users who prioritize efficient navigation and organization over graphical elements.



Some users might find the graphical tiles in the Grid layout more intuitive and visually pleasing, while others might appreciate the simplicity and straightforwardness of the List layout.

3.2.1.6 Sign Language View configuration

The “Sign Language View” in Microsoft Teams is a feature designed to make online meetings more accessible for sign language users, including individuals who are deaf or hard of hearing. This feature enhances the video conferencing experience by prioritizing video feeds of sign language interpreters or participants who are using sign language during a Teams meeting.

To use this feature, the user must turn on the setting shown in fig. 3-8.

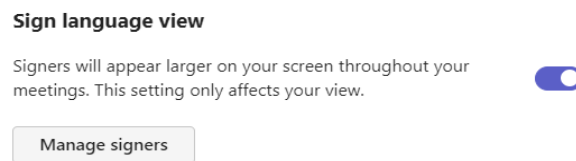


Figure 3-8. Sign language view

Before a meeting, to prepare correctly the Sign Language View, it is required to have one person as a sign language interpreter present in the meeting and select that user clicking on “Manage signers”.

Once in the meeting, access the meeting controls. Look for an accessibility icon or the “More options” menu (represented by three dots), which might give you access to the Sign Language View settings and select “Sign Language” from the options available. This action will open the settings specific to Sign Language View.

In the Sign Language settings, you can specify your sign language preference and pin interpreters or other participants using sign language. You may be able to pin multiple sign language users, depending on the implementation. Pinning ensures that the video of these participants remains visible on the screen throughout the meeting, regardless of who is speaking. It is possible to adjust the size and position to ensure a clear view of the sign language interpretation at all times. Even when other participants are speaking or presenting, the pinned sign language video feeds will remain visible, making it easier for sign language users to follow along with the meeting.

Microsoft Teams’ Sign Language View is a significant step towards making online learning more inclusive. By facilitating easier access to sign language interpretation during video meetings, Teams helps ensure that all participants, regardless of hearing ability, can effectively communicate and collaborate.

3.3 TURN ON/OFF ANIMATIONS

Turning animations on/off in Teams (fig. 3-9) can help customize the user experience, especially for individuals who experience discomfort or distractions from motion on the screen and prefer a simpler interface.



Figure 3-9. Turn on/off animations



3.3.1.1 Language and translation configuration

Configuring Language and Translation settings in Microsoft Teams allows users to personalize their experience and improve communication across different languages. This feature is especially useful in teams with diverse linguistic backgrounds (fig. 3-10).

- **Change Language:** allows selecting the language to display in the Teams interface. After selecting the preferred language, it is required to restart Teams for the changes to take effect.
- **Using the Translation Feature for Messages:** Teams also offers an on-the-fly translation feature for chat messages, making it easier to work with team members who speak other languages.
 - **Receive a Message:** When you receive a chat message in a language different from your interface language, Teams may automatically offer to translate it.
 - **Manual Translation:** hover over the message, click on the “More options” ellipsis (...), and select "Translate" to translate the message into your interface language.
 - **Reverting Translation:** To see the original message, you can go back to the “More options” ellipsis (...) and select “See original message”.

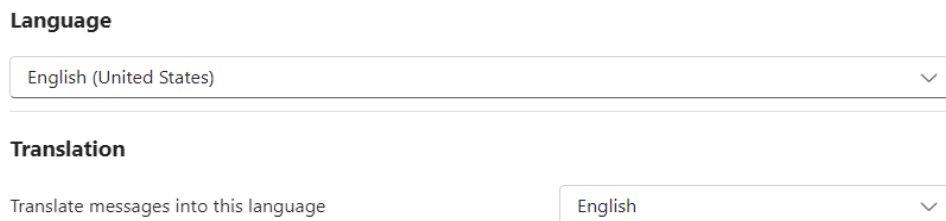


Figure 3-10. Language and translation configuration

Adjusting language and translation settings in Microsoft Teams can significantly enhance communication within your team, ensuring that language barriers are minimized and collaboration is seamless.

3.3.1.2 Teletypewriter (TTY) mode

The Teletypewriter (TTY) mode is designed to enhance accessibility for users with hearing or speech disabilities. TTY technology allows individuals to send typed messages across telephone lines.

When TTY mode is enabled in Teams (fig. 3-11), the software adjusts how it handles calls to ensure compatibility with TTY devices and relay services. This includes converting audio into text and vice versa, enabling users with TTY devices to effectively communicate with those using voice and text on Teams.

Teletypewriter mode

Turn on TTY to use text to communicate over the phone line. To get this working, be sure to connect a TTY device.

Turn on TTY mode



Figure 3-11. Teletypewriter (TTY) mode configuration



TTY Mode enables users with hearing or speech impairments to participate in calls and meetings, enhancing inclusion in the workplace or educational environments. Provides direct communication between Teams users and those using traditional TTY devices, which is crucial for personal or professional interactions. It is also capable of interacting with text relay services to transcribe voice to text and vice-versa for communication with users who do not use TTY devices.

The effectiveness of TTY mode can depend on the quality of the text-to-voice and voice-to-text transcription, which is crucial for clear communication particularly useful for users with hearing or speech disabilities.

TTY mode in Teams exemplifies the larger capabilities for accessibility of MIIVC, ensuring that all users, regardless of their abilities, can communicate and collaborate effectively.

4. SET UP A NEW COURSE

This section describes the steps to create a course in the VIC. First step is to navigate in the left panel and open the “Teams” area. Once, you can create or join a course by clicking on the top right button, “Join or create team” (fig. 4-1).

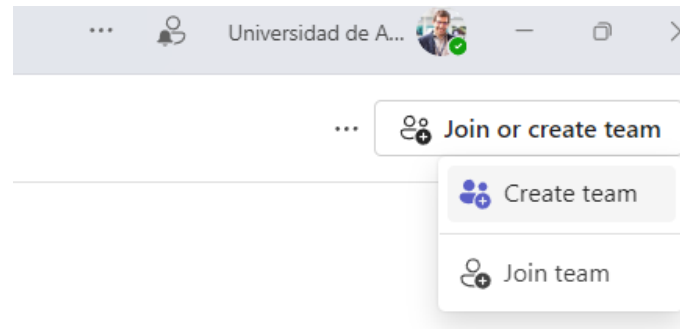


Figure 4-1. Create/join a course team

In our case, we will create a team. Different options are available to instantiate initially the course. Best option would be to import the contents from another previous team. However, to start from scratch we will start from a standard template, in our case “Class” as it is shown in Figure 4-2.

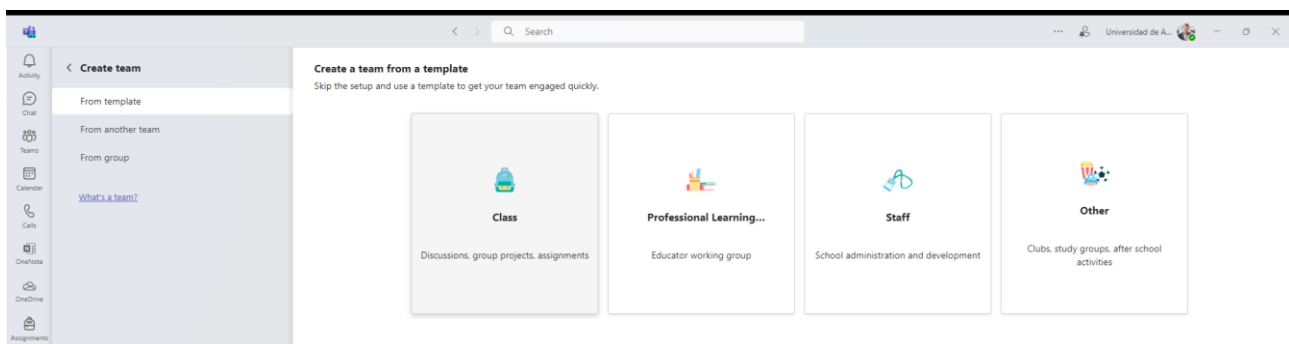


Figure 4-2. Create team options

Class template is focused on class teams where a professor is the owner and students participate as members in the group. Each class team allows creating assignments and quizzes, record student feedback, and give students a private space for notes in Class Notebook (further explained in next sections). Initially one channel named “General” is created.

The Professional Learning Community template is focused for a group of educators working together on shared goals or professional development. This kind of team allows organizing materials, collaborating, and accessing a OneNote notebook populated with templates for common group tasks.

Once Class template is selected, the system requires a “name” and “description” for the new course. In our example, we will name it “Training course” (fig. 4-3).

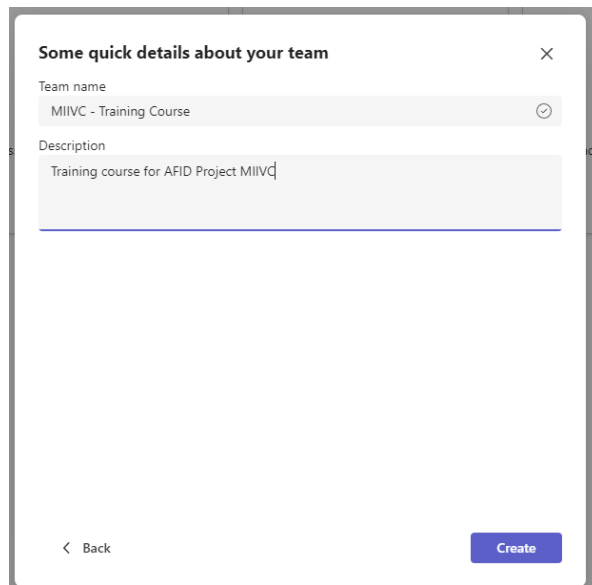


Figure 4-3. Course name and description

Then, the course is created with the sections and initial contents shown in the Figure 4-4. The Insights app is not shown to students.

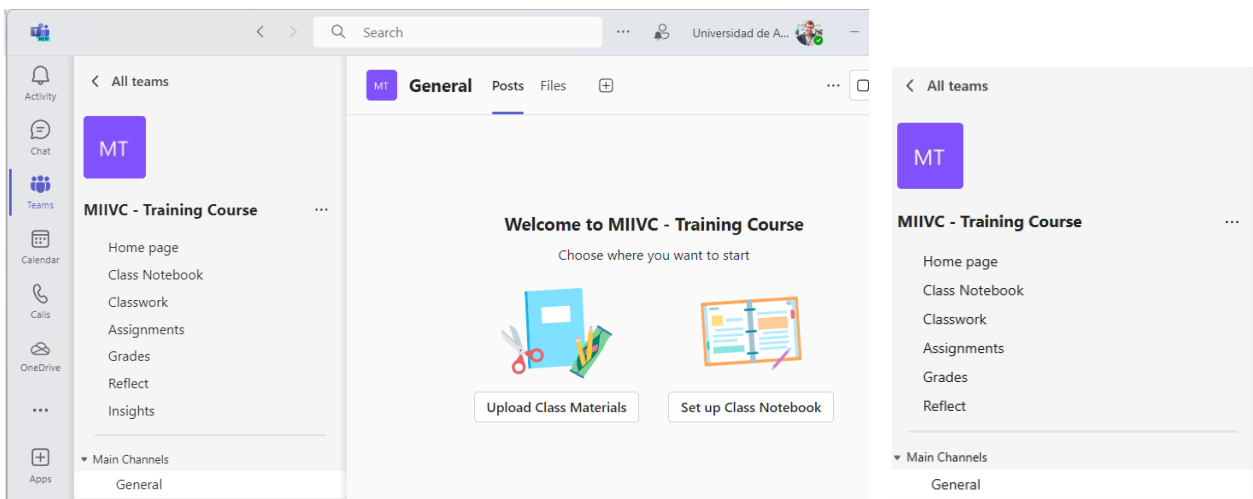


Figure 4-4. Course initial sections and contents for teachers and students

This initial setup includes a few key elements designed to help start organizing the course content and communication. The foundational elements shown in the left pane depends on the version. Let us briefly described those shown in Figure 4-4:

- **Homepage:** the first web page that would serve as a landing page where the main information about the course and relevant links are included.
- **Class Notebook:** A notebook pre-set for educational purposes, divided into sections for collaboration, teacher-only content, and individual student areas.
- **Classwork:** This feature allows educators to organize and distribute assignments, quizzes, and other educational content. It allows arranging class content into modules to design a cohesive experience for students.



- **Assignments:** A feature to create, manage, and grade assignments. Initially, this area is empty and awaits the creation of new assignments.
- **Grades:** An integrated gradebook where instructors can track and post grades for assignments and assessments.
- **Reflect:** A Microsoft Teams app designed to support emotional literacy and create a culture of feedback and reflection. It allows educators to check in on students' emotional states and encourages students to share their feelings in a guided way, helping to build a supportive classroom environment.
- **Insights:** Provides analytics and data on student engagement, activity, and progress within Teams. It can help educators understand how students are interacting with the course material, track assignment completion, and monitor communication patterns.
- **Main channels: General.** Automatically created for every new team, this channel serves as the main hub for announcements, discussions, and general communication between instructors and students. Other channels can be created. Each channel has posts and files sections.

The above elements are designed to provide a basic structure for the course.

Clicking on the “...” (more options) next to the team name “VIC” or “MIIVC”, we can manage the team. In the navigation bar different elements and settings of the course are shown (fig. 4-5).

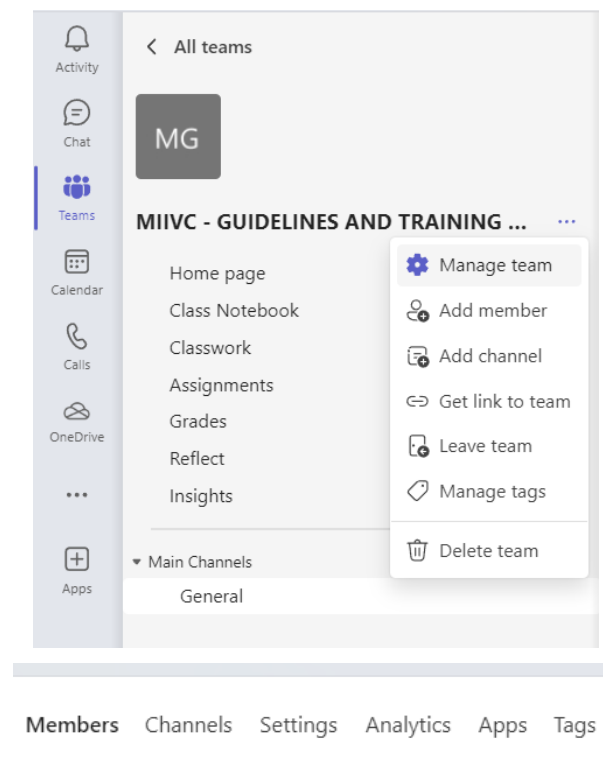


Figure 4-5. Manage team options

In the Tab shown clicking in the “Management team” there are different options such as Members, Channels, Settings, Analytics, Apps and Tags.

The Settings tab allows the course owner to edit the name, description and picture identifying the course. Besides, the default permissions for course members and guests can be modified. It is recommended not change these properties.



One relevant option is the generation of a code for members to join the online course directly. Unfortunately, guests will not be able to join with a team code. All these course settings options are shown in the Figure 4-6.

MT **MIIVC - Training Course** Members Channels **Settings** Analytics Apps Tags

This team has guests.

[Edit](#)

Team picture

[Change picture](#)

- ▶ **Member permissions** Enable channel creation, adding apps, and more
- ▼ **Guest permissions** Enable channel creation
 - Allow guests to create and update channels
Guest channel creation permissions require member channel creation to be enabled as well.
 - Allow guests to delete channels
Guest channel deletion permissions require member channel deletion to be enabled as well.
- ▶ **@mentions** Choose who can use @team and @channel mentions
- ▼ **Team code** Share this code so people can join the team directly - you won't get join requests

[Generate](#)

Note: guests won't be able to join with a team code

Figure 4-6. Course team settings

Next section describes the steps to add members/guests to the course. In the rest of the documentation, we will name indistinctly the online course, as class or team for the VIC course inside MS Teams.



5. ADDING MEMBERS TO A COURSE

5.1 USER ROLES

Once the course is created, the system offers the option to include the participants in the course. There are three type of users for the created course team: owners, members and guests. These roles define what actions the user can perform within the team, affecting how they can interact with content and other team members.

- **Owners** have the most control over the course. They can add and remove members, change team settings, and have full access to editing and managing team content. This includes the ability to delete messages, channels, and tabs. Owners can also manage team permissions, create and manage channels, and appoint other members as owners. The creator of the classroom is included in the team with an owner role. Always one member in the team needs to have this role.
- **Members** can participate fully in the team by posting messages, creating channels (if allowed by the team's settings), accessing files, and participating in meetings or chats. Their ability to change team-wide settings, add or remove members, and manage certain content is restricted. This role is intended for the general participants in the team who need to collaborate and contribute content but do not require administrative control over the team's settings and membership.
- **Guests** have the most limited access and capabilities within the team. They can participate in chats, meetings, and collaborate on documents, but their access to information and certain functionalities is restricted. For example, guests may not be able to access certain team data, add or manage tabs, or invite others to the team. The specific capabilities and restrictions for guests can be configured by the team's owners and the organization's overall Teams settings.

Clicking on the “...” (more options) next to the team name “VIC” or “MIIVC”, in the Members section, the list of current owners and members/guests are shown as in Figure 5-1.

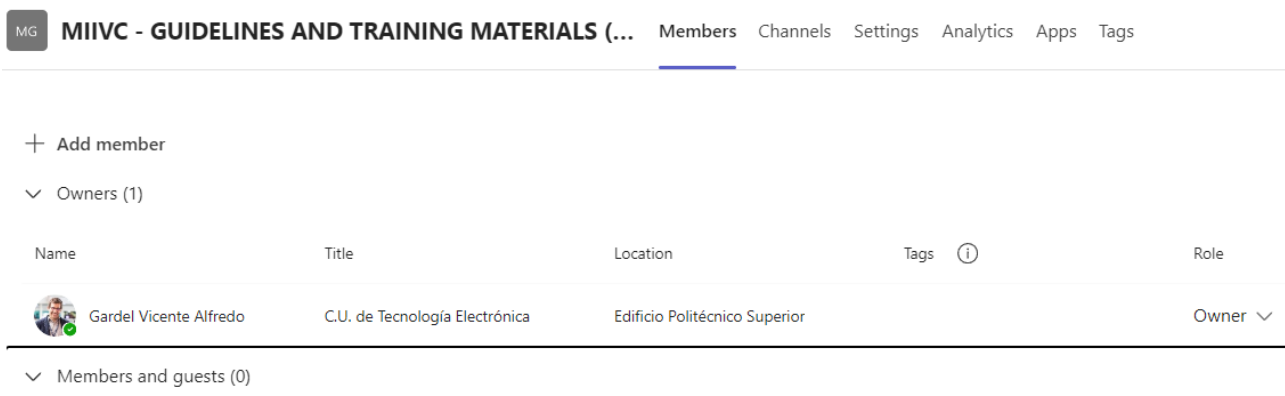


Figure 5-1. List of current course members

Clicking in “Add member” opens the window shown in Figure 5-2.

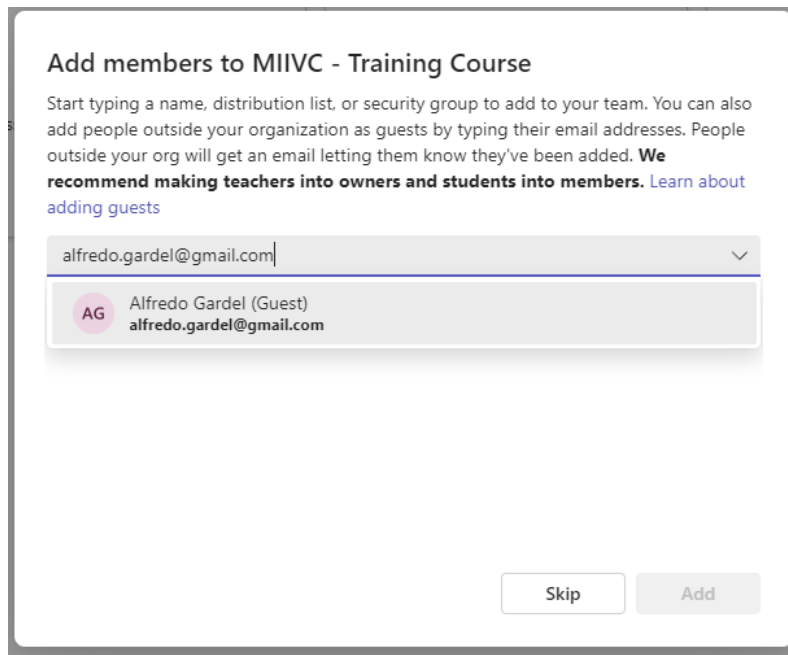


Figure 5-2. Adding members to the new course

A user can be added to the team/course simply entering the email address of the professor/student you want to invite. Professors and students from the same institution are recognized, and they have available all the features for managing/using the course. On the other hand, external students from other partner universities are guests. Depending on the role, the team user (owner, member or guest) can have different permissions and capabilities (fig. 5-3).

The following table shows the capabilities available for each role:

Capability	Owner	Member	Guest
Create a channel	✓	✓	✓
Participate in a private chat	✓	✓	✓
Participate in a channel conversation	✓	✓	✓
Share a channel file	✓	✓	✓
Share a chat file	✓	✓	
Add apps (such as tabs, bots, or connectors)	✓	✓	
Can be invited via any work or school account for Microsoft 365			✓
Create a team	✓	✓	
Delete or edit posted messages	✓	✓	✓
Discover and join public teams	✓	✓	
View org chart	✓	✓	

Figure 5-3. Course Teams Capabilities for each user role

Microsoft Teams recommends that professors have the owner role of the course. Depending on the administration settings new versions of Teams does not differentiate among teachers and students.



Therefore, it is highly recommended that the initial configuration of the team/classroom and main structure of the course shall be done by professors (course owners) from the university hosting the online VIC course.

For external users (guests) since they are not part of the current organization, Teams will recognize them as guests. After adding them as a guest, the external user will receive an email invitation. They must accept this invitation to join the team (fig. 5-4).

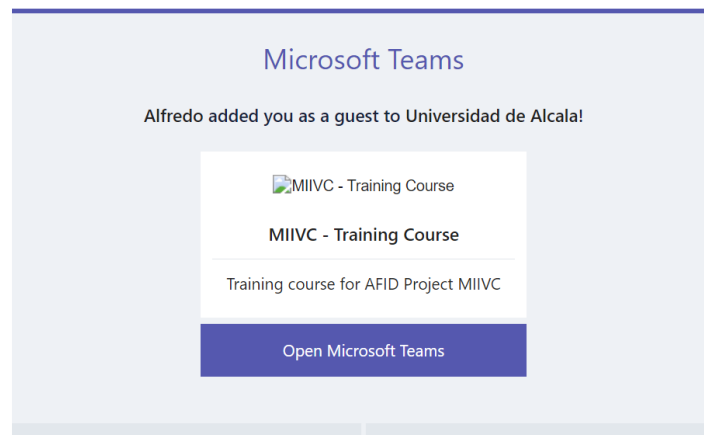


Figure 5-4. Invitation email sent to a guest course student

Once accepted, they can participate in the team activities, access files, and join meetings, depending on the permissions that have been set. The email account must be registered in the Microsoft services.

Adding external teachers or enrolling external students to a course is equivalent to add guest members into each VIC university course. They are not members of the institution, so they are not allowed to share a chat file, add apps (such as tabs, bots, or connectors), neither create teams, but these are features that will not be commonly used in the online VIC learning courses.

Since external students might not be familiar with other institution's policies on how to use Teams, it is convenient to communicate any expectations, guidelines, or resources to help them get started.

As VIC courses will be hosted among different partner universities, the students should switch to their guest accounts in Teams (fig. 5-5). For that, they are required to go to the accounts menu to the left of the user profile picture at the top of the app, and then pick the team or guest account desired.

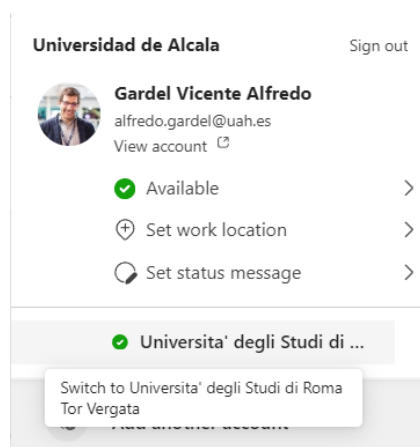


Figure 5-5. Switching the account to a guest user in another Teams institution



6. COURSE HOMEPAGE

The course Homepage is the first view displayed to the user accessing the course. Therefore, it can be considered as the course's cover, providing an informative welcome such as texts and relevant data for tracking the course.

Figure 6-1 shows the customization of the Homepage for the VIC training course.

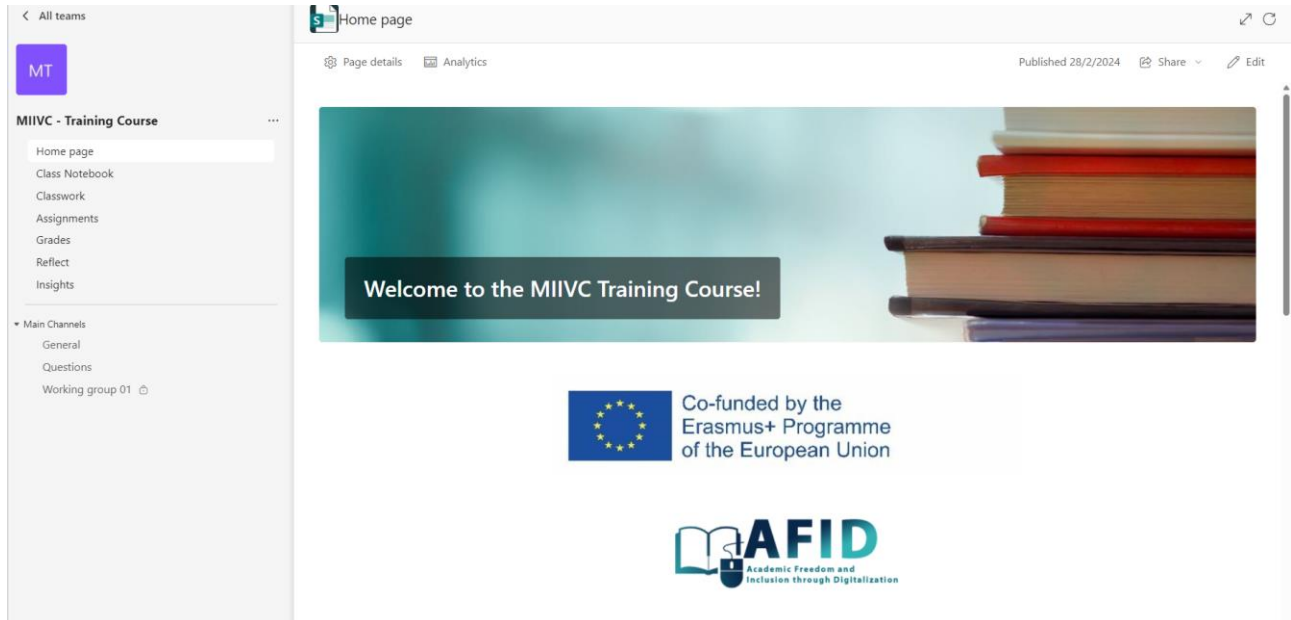


Figure 6-1. Homepage for the Training course

By default, the course homepage has multiple useful elements and sections. Several of the sections are fed with course information automatically.

- **Banner image and greeting:** to customize and update with a specific course image/message (see previous figure).
- **Header and announcement space:** to share important information with your class.
- **Resources:** links to important documents and webpages. For example: in our course we have included information regarding the course content creation and homepage editing.
- **Class schedule:** this section automatically populates as Teams meetings are scheduled for the course.
- **Assignments:** this area automatically populates with new assignments and quizzes.
- **Recent updates/files:** This section automatically populates as any course member collaborate on files together in the class team. For example, recordings of class meetings, presentations, or documents shared in a public post.
- **Instructor information:** to share information about the professors of the course, linked-in, etc.

The homepage within a class or course team can be edited, saved as a draft, and republished once changes are finalized. To modify its contents, click the “Edit” action at the top of the page. This will alter the page's appearance, allowing any section to be edited.

While editing a section, a toolbar appears providing various options. For example, clicking on the Web part edit is possible to make changes to a section's layout or images. By clicking on text, you



can directly edit the content in the banner, announcements, Resources, and About Me sections of the page.

To reorganize the page, select “Move web part” button and then drag and drop the section where you want it.

When you are ready, select Republish to make your changes visible to the students. It is advisable to customize the Homepage, and the whole structure/files of the course, before admitting students.

Figure 6-2 shows the Homepage sections customization for the VIC Training course.

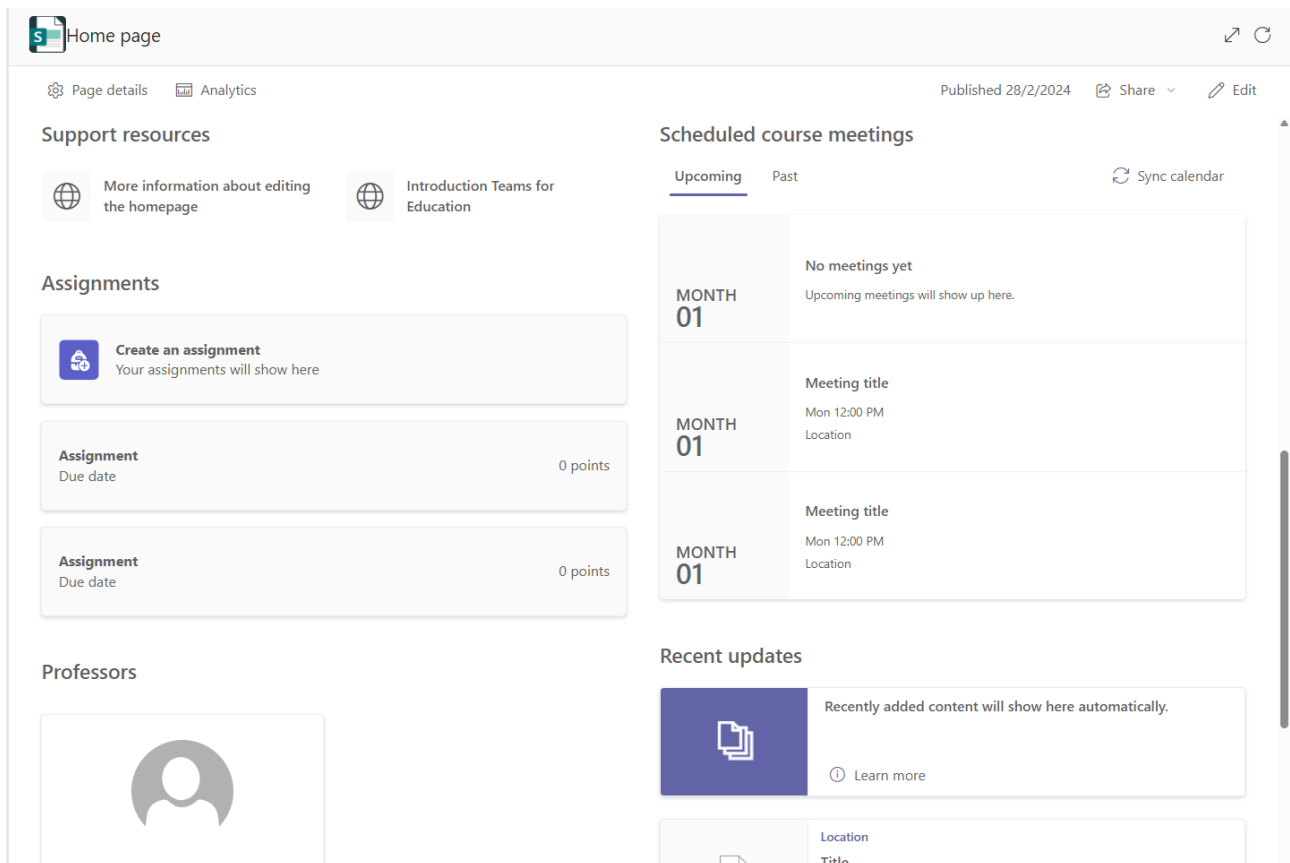


Figure 6-2. Homepage sections customization for the Training course

Next sections present the rest of the class/course elements and how to use them.



7. CLASS NOTEBOOK

7.1 DEFINITIONS

A Class Notebook within Microsoft Teams is an integrated digital notebook designed for education, leveraging the capabilities of OneNote within the Teams environment. It is specifically tailored to meet the needs of teachers and students in a virtual classroom setting. The Class Notebook facilitates the organization, distribution, and collection of coursework and materials, offering a collaborative space for both teaching and learning. Teachers can create content, distribute assignments, and provide feedback all within this digital notebook. It consists of several key components, each serving a distinct purpose in the educational process: Collaboration Space and Content Library.

The Collaboration Space is a shared area within the Class Notebook where all class members, including both teachers and students, can create, edit, and collaborate on content in real time. It is designed to encourage interactive learning, group projects, and class discussions. This space stimulates a sense of community and collaboration among students, allowing them to work together on assignments, share ideas, and provide peer feedback.

The Content Library within the Class Notebook is a read-only section for students where teachers can share course materials. This could include the syllabus, lecture notes, study guides, and other resources. While students can view and interact with the materials in the Content Library, they cannot edit or delete the content. This ensures that essential teaching materials are preserved and accessible to all students throughout the course. Teachers can update and add new content as needed, making it a dynamic repository of course materials.

Therefore, we need to focus specifically on organizing the Class Notebook and creating content/activities inside. These tasks can be approached as a unified, iterative process, to effectively combine them. Next subsections present a good-practice iterative process to generate and curate the course contents/activities in the Class Notebook.

7.2 COMMON PRACTICES USING CLASS NOTEBOOK SECTIONS

7.2.1.1 Initial Setup and Organization of a Class Notebook

First step is to create the Class Notebook within Teams. Therefore, start by setting up the Class Notebook using OneNote. This involves creating sections for the Collaboration Space, Content Library, and Student Notebooks. This step ensures there is a structured place to add course content and activities.

Next, design the Content Library, populating it with essential course materials such as course syllabus, schedule, lecture notes, and essential readings. This area is read-only for students, making it perfect for distributing materials they will need throughout the course.

Besides, prepare the Collaboration Space, reflect on how to use it and create the sections for group projects, discussion forums, or interactive class activities. This space should be designed to foster engagement and collaboration among students.



7.2.1.2 Developing and Populating Course Content

Create or import course materials to develop the lecture materials, such as presentation slides, video lectures, and reading assignments. These can be directly created within OneNote or uploaded from a local computer. The more diverse formats are used the better to cater to different learning styles.

Plan and design the interactive activities to create interactive elements such as quizzes using Microsoft Forms, discussion prompts for the Collaboration Space, and assignments that students can complete individually or in groups. This step is crucial for engaging students and providing varied learning experiences.

Consider embedding content from external sources or integrating other educational tools available within Microsoft Teams. This can add variety and depth to your course materials and activities.

7.2.1.3 Iterative Development and Student Engagement

From starting the course, it is recommended to gather student feedback on the content and activities. Use this feedback to make iterative improvements to the course materials and the way the Collaboration Space is used.

Regularly update the Collaboration Space with new discussion topics, group activities, or challenges to keep students engaged. Monitor and participate in these discussions to maintain a strong presence.

Be prepared to adapt the course content and the structure of the Class Notebook based on how the course progresses. This may involve creating additional sections in the Class Notebook, introducing new types of activities, or revising existing materials for clarity or depth.

7.3 SETUP A CLASS NOTEBOOK

This section describes how to set up and initiate a Class Notebook in Microsoft Teams. Each class team has its own Class Notebook, a digital notebook for the entire class that can store text, images, handwritten notes, attachments, links, voice, video, and much more. Within a course, there is a tab called Class Notebook. Clicking it for the first time, the teacher will notice the notebook does not exist yet and will need to set it up (fig. 7-1).

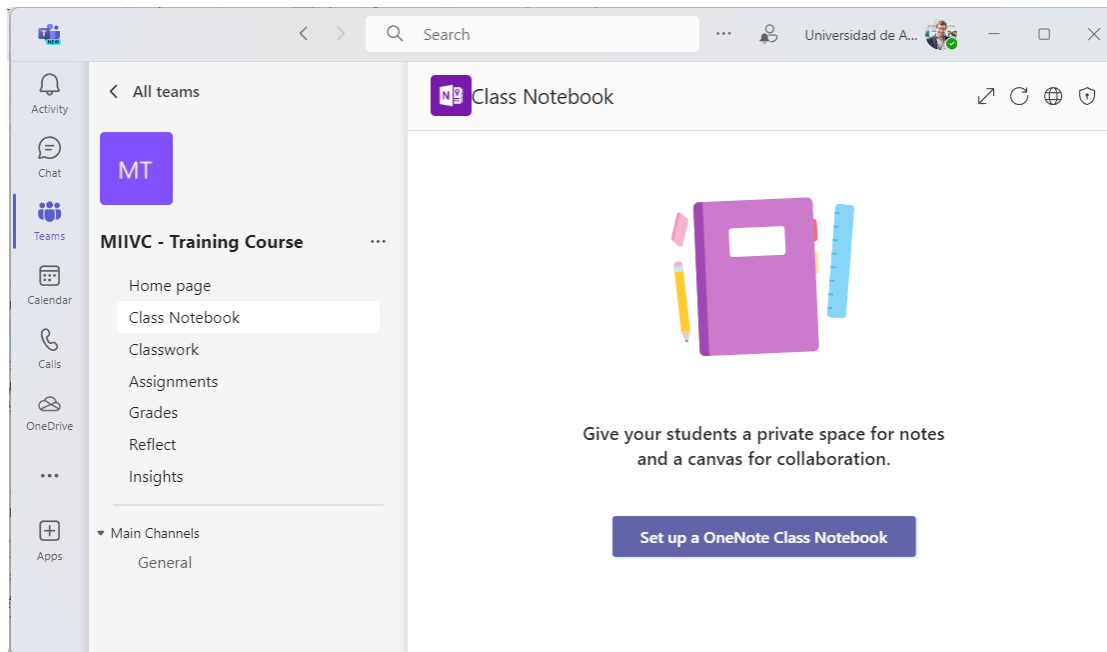


Figure 7-1. Create/setup the Class Notebook

To set it up, select the option to configure a Class Notebook for the course. You will be asked whether you want to start with a blank notebook or from the content of an already existing notebook.

Class Notebook includes different basic components of the notebook experience, which can be customized according to the course's needs.

There is also a personal notebook for each student, which is a private space shared between the teacher and each student individually. Teachers can access all notebooks, while students can only see their own. Figure 7-2 shows the different permissions for the Class Notebook sections for professor/students roles.

Class Notebook	
Here's what you will get in your MIIVC - Training Course Notebook:	
<p>Collaboration Space</p> <p>Team notes are stored here for everyone to see. All channels will have sections here.</p>	<p>Teacher can edit the content</p> <p>Student can edit the content</p>
<p>Content Library</p> <p>Publish course materials to students.</p>	<p>Teacher can edit the content</p> <p>Student can only view the content</p>
<p>Teacher-Only Section</p> <p>A private space for teachers</p>	<p>Teacher can edit the content</p> <p>Student cannot view the content</p>
<p>Student Notebooks</p> <p>A private space for each student.</p>	<p>Teacher can edit the content</p> <p>Student can edit his or her own content and can't view others' notebooks</p>

Figure 7-2. Class Notebook Sections permissions - role professor/student information



During the setup, the system includes some default sections and offers suggestions for potential sections. For example, an “Extra-practices” section can be added where different worksheets are assigned for students to complete (fig. 7-3 and 7-4).

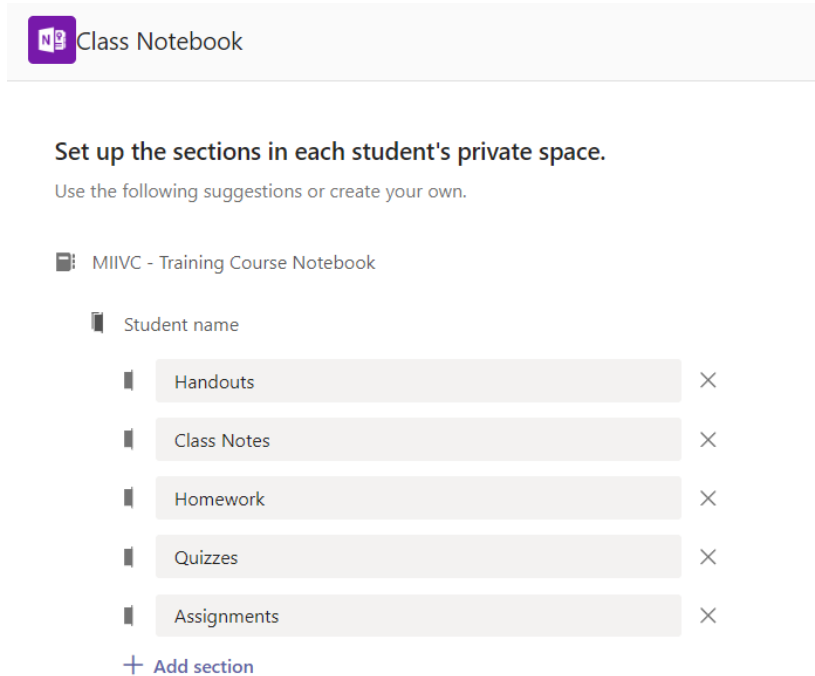


Figure 7-3. Class Notebook Sections

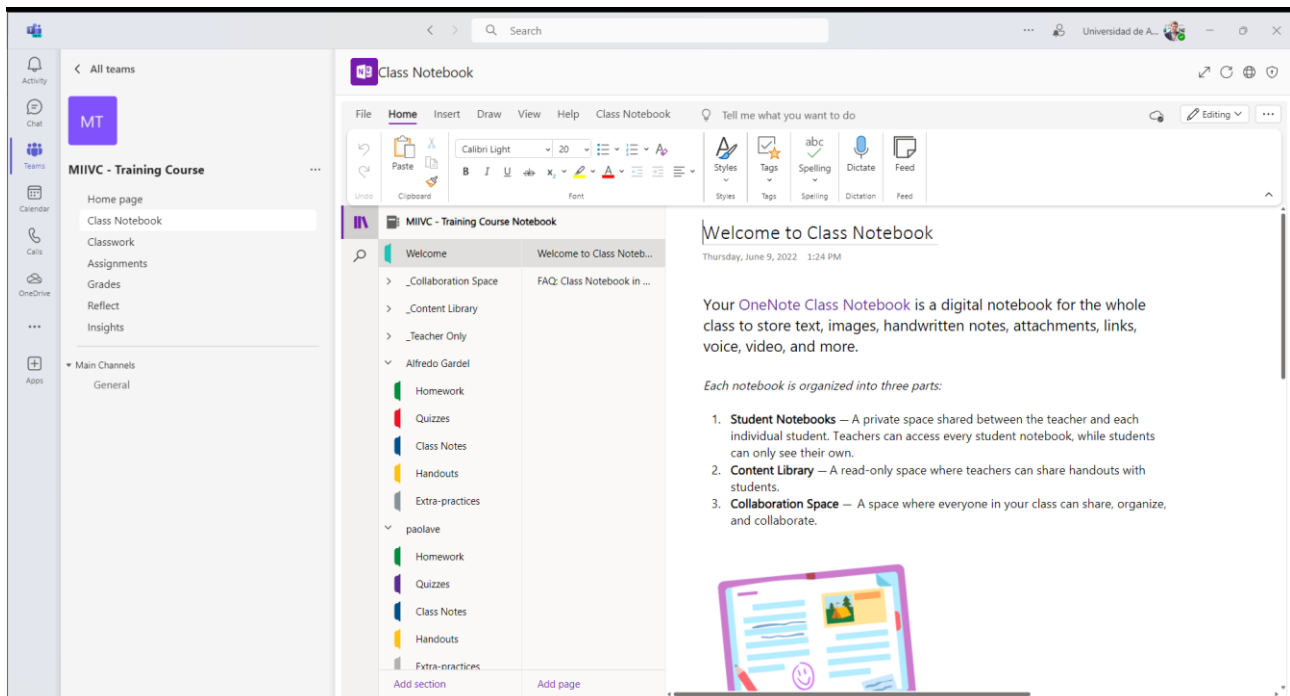


Figure 7-4. Class Notebook opened

To complete the setup, click the Create button, wait for the notebook to be created and configured. By clicking to open the navigation pane, you can navigate through the different sections.



Once the Class Notebook is created, these sections are made for each enrolled student, where teachers can share resources, videos, voice, etc.

One default area created is the Content Library. The Content Library is a read-only space where teachers can share documents with their students, and the Collaboration Space is where all class members can share, organize, and collaborate.

Initially, the system provides some default ideas on what can be done in the Content Library space (fig. 7-5). Content Library serves as a repository for materials such as reading sheets or spreadsheets. It can be thought of as a large filing cabinet for class documents.

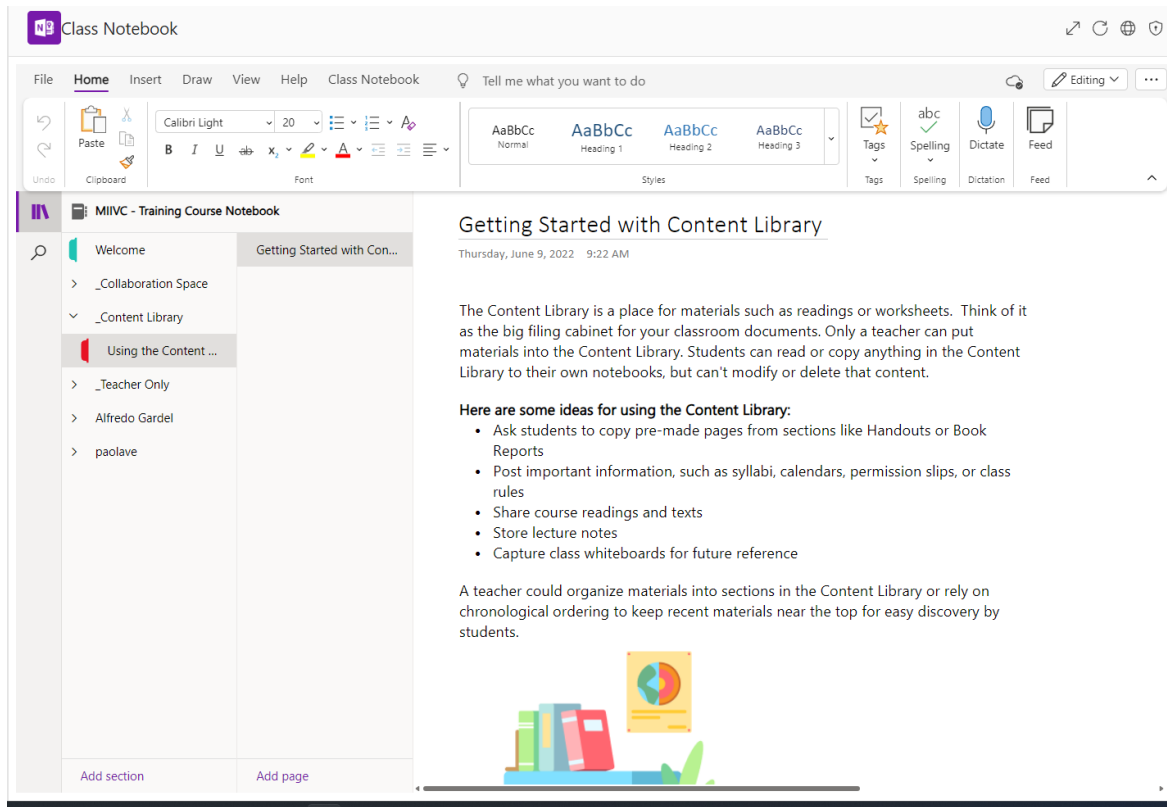


Figure 7-5. Initial information in the Content Library

Teachers can instruct students to copy predefined pages from sections like documents or book reports, meaning they can come to the Content Library, make a copy of what is published there, and then have their own copy in their notebooks.

- It is possible to share course readings and texts, store lecture notes, and capture classroom whiteboards for future reference.
- Teachers can organize materials in sections of the Content Library or rely on chronological ordering to keep recent materials at the top, making it easier for students to find them.

Another section created is the Collaboration Space (see initial contents shown in Figure 7-6). The Collaboration Space also offers a series of tips and advice on how to use this space. It is an open space where both students and teachers can add content, modify, remove, and collaborate. In the Collaboration Space, two default sections are created.

- We can delete them and start creating or deleting sections for each of the different general sections.



- There are general sections that are created by default.
- Content Library is automatically created within the Class Notebook, as is the Collaboration Space. These contents are defined for each student and created automatically when the student is added to the team. This also happens if one new section is created.

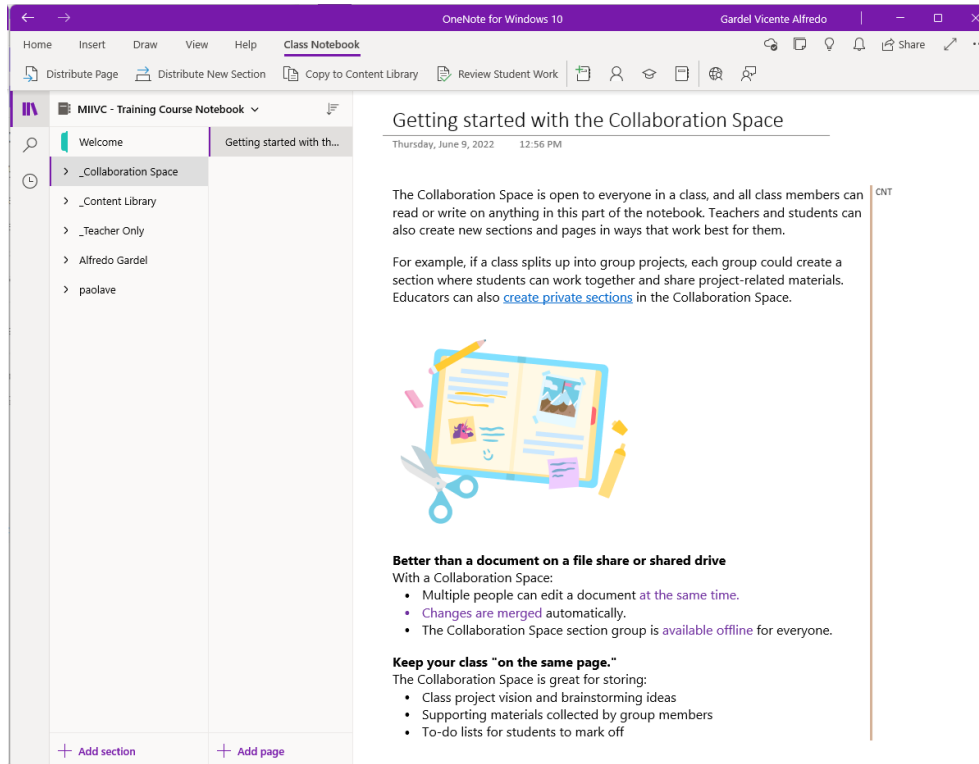


Figure 7-6. Initial information in the Collaboration Space

Sections can be easily added or removed from the navigation bar of the course Class Notebook.

7.3.1.1 Options to work with sections of a Class Notebook

Each section has its own subsections, and each subsection can have one or more pages if desired.

Let us explore the options available for working with sections and tabs.

Right-clicking on a section opens a menu with several options such as rename or delete the section.

When a section is deleted, also all the pages contained within that section will be deleted.

The options for section pages are create new, copy, delete, move it to another section, etc. Besides, in the option "Show versions" we can trace the changes and different modifications that have occurred on that particular page.

It is worth noting that we can copy the link for any section or page to be able to open it directly from a post, an email or a browser.

The initial general sections such as the "Content Library" cannot be deleted. They will always remain here as part of the Class Notebook.



8. COURSE CHANNELS

Additional to the Class Notebook, as any team, a course has a General channel where to publish information or use/upload documentation. Posts and Files are the initial Tabs created with the team (fig. 8-1).

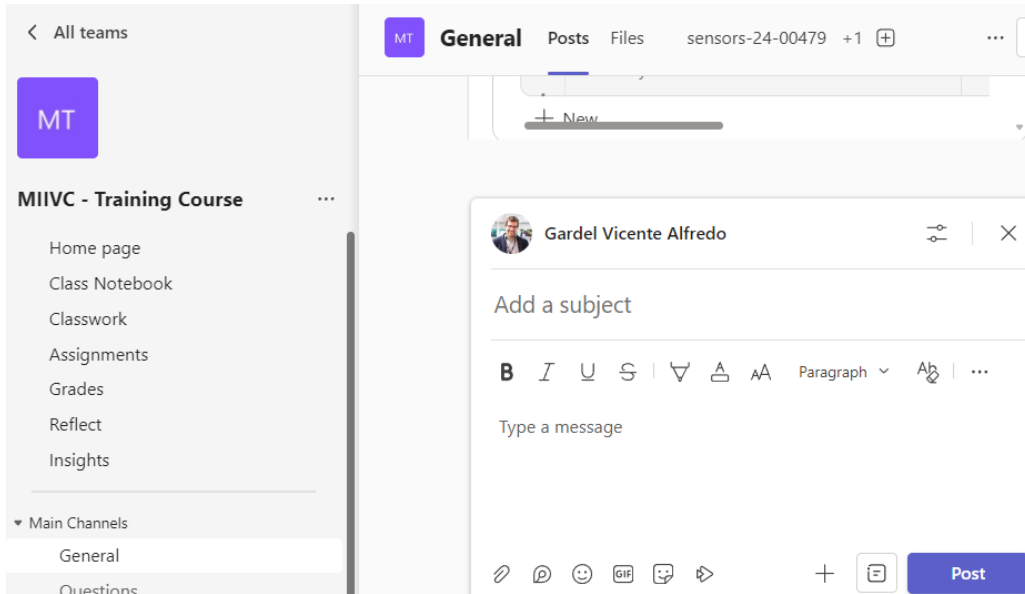


Figure 8-1. Posts tab – start a new post

The Posts tab shows the communication feed and interactions among members of the channel. It allows users to share messages, announcements, files, and other content that should be relevant to the channel’s topic. Within the “Posts” tab, users can create new posts, reply to existing ones, mention specific team members or groups, and use rich formatting options to enhance their messages. Additionally, the “Posts” tab may include features such as the ability to pin important messages, filter posts by type or author, and engage in threaded discussions for better organization and clarity.

The Files tab is where the repository of documents for the course can be uploaded and easily shared with the course members. Figure 8-2 shows the different new documents that Teams offers natively.

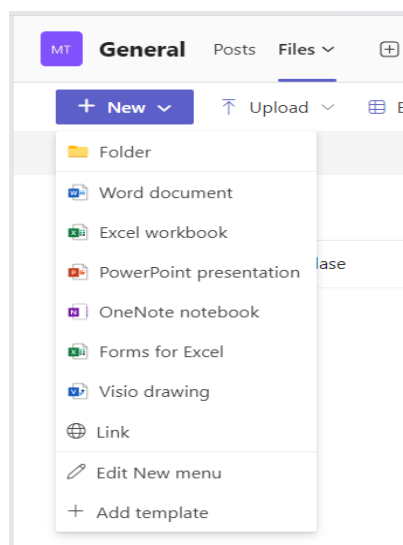


Figure 8-2. New document files



More Tabs additional to Posts and Files can be included to any channel. For example, a link to the Class Notebook or Assignments.

Initially the team creates a General channel that might be used for any issue or information about the course.

Next section presents how to create a new channel for a specific purpose within a course, for example, a channel for a group of students or different channels for answering doubts for each thematic unit of the course.

8.1 CREATE A NEW CHANNEL

To create a new channel in the course, inside the course team, click on the “More options” icon (three dots) next to the team name or right-click on the team name. Then, select “Add channel” from the dropdown menu as shown in Figure 8-3. Alternatively, you might find an option to create a channel directly at the bottom of your team’s channels list.

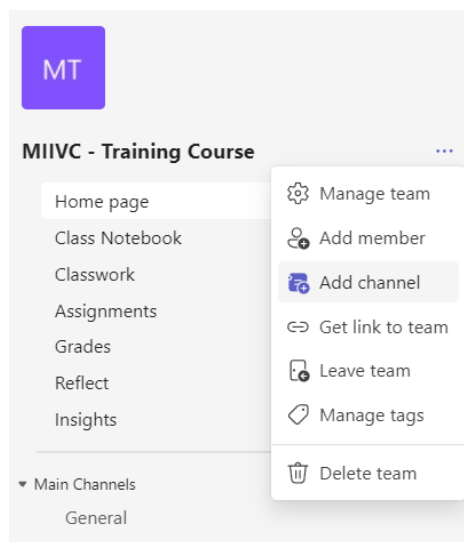


Figure 8-3. Adding a new channel to the course

Once, requested the creation of a new channel, the Figure 8-4 window “Create a channel” is shown. You must enter several channel details such as the name of the new channel, and optionally, a description to give more context about the channel. It is important to choose a name that clearly represents the purpose of the channel, so students clearly understand the channel's intended use.

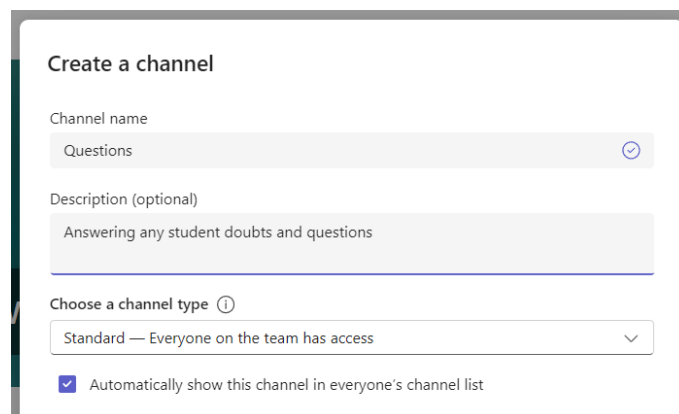


Figure 8-4. Options to create a new channel in the team course



Generating other channels for the course apart from the General channel, is a very convenient way, to focus the attention of the students and share with them the information in an efficient way.

We will create a standard channel where everyone on the team has access.

Once the channel is created, we can manage the settings of the channel by clicking in its configuration (three dots). Figure 8-5 shows the different channel options.

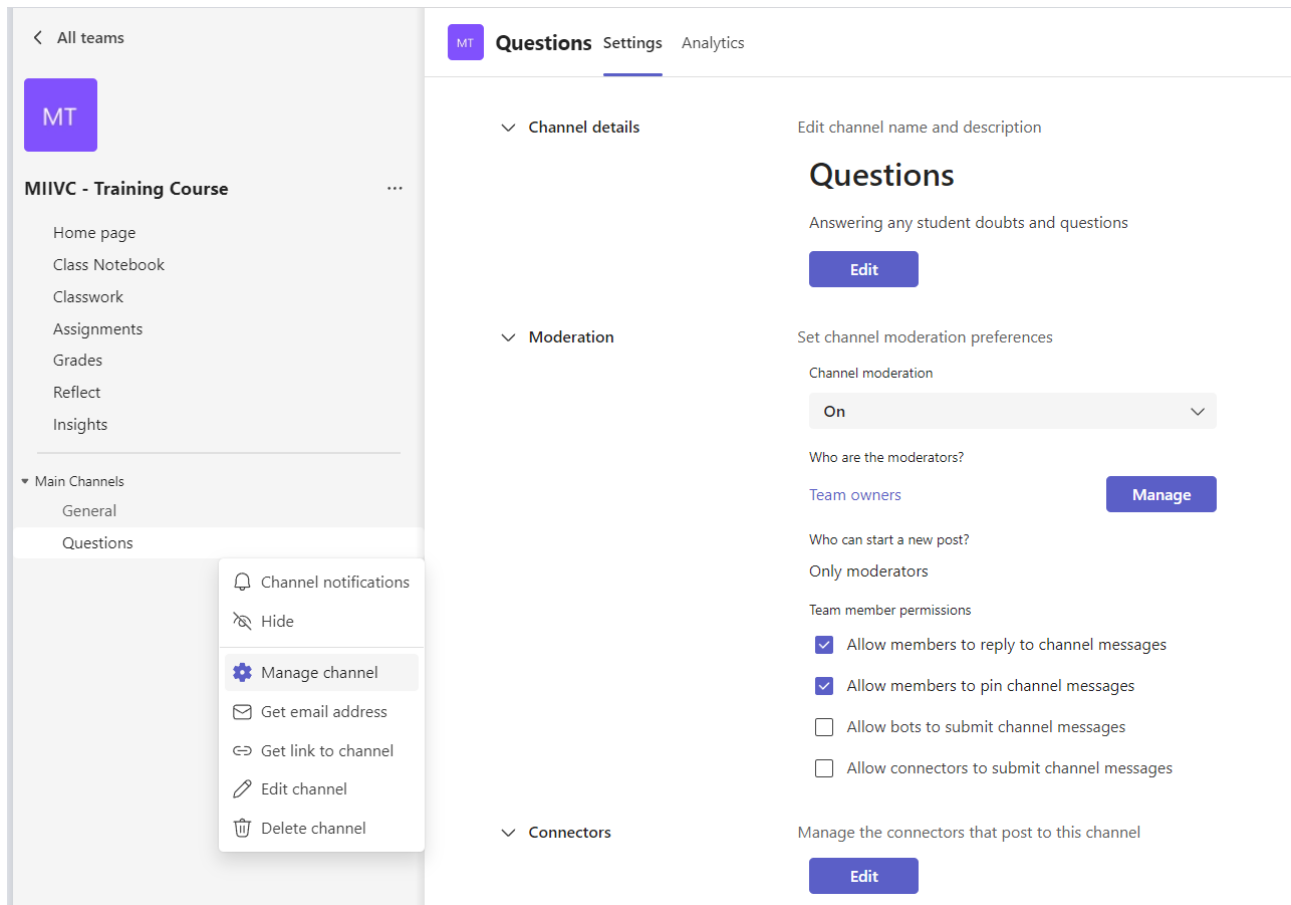


Figure 8-5. Managing options for a course channel

Channel details can be modified, its name and description. The configuration of post moderation within the channel is of particular interest.

By default, moderation settings are activated, permitting only moderators to initiate new posts while allowing members to respond. However, this setting can be adjusted to permit students to start posts. Alternatively, certain students can be elevated to moderators, granting them the ability to manage the channel's content.

The user can hide or show a channel if it is not relevant (Figure 8-6).

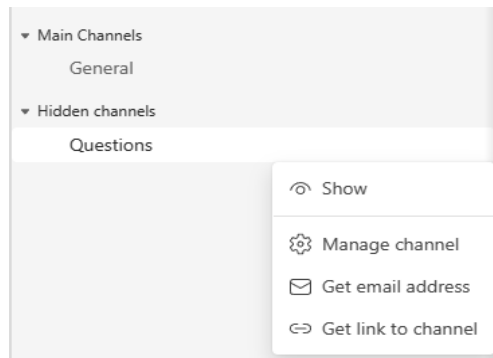


Figure 8-6. Hide/show a channel

8.2 SET UP A PRIVATE CHANNEL

Another option when creating a channel is to request it to be a private channel, so only specific people on the team will have access to it. Figure 8-7 shows the option to be selected in “channel type”.

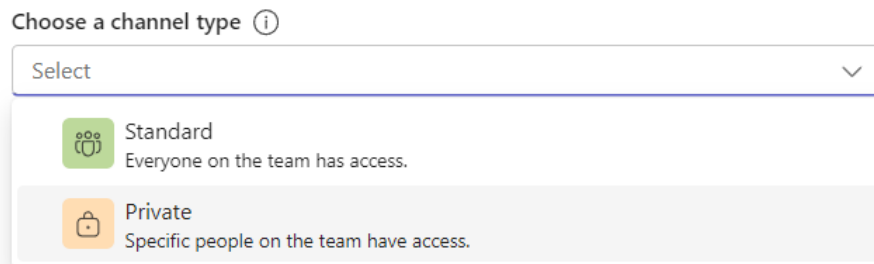


Figure 8-7. Create a private course channel

A private channel has similar properties plus the option to add which users are included inside (fig. 8-8).

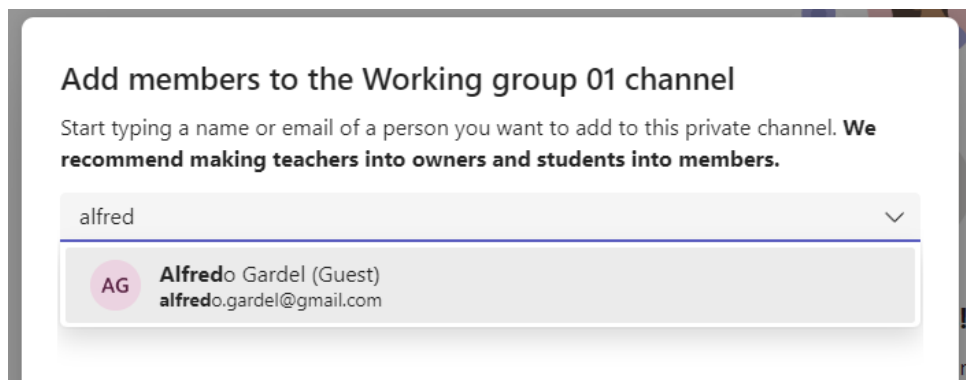


Figure 8-8. Adding participant to the private channel

The private channels are well suited for sensitive or confidential discussions that are relevant only to a subset of the team. Files shared in a private channel are stored in a separate SharePoint document library, accessible only to the members of the private channel. This ensures that sensitive information is kept confidential. Besides, meetings and notifications within a private channel can only be joined by members of that private channel, facilitating the use of information and ensuring that only relevant members are alerted.



8.3 CHANNEL POSTS

In Microsoft Teams for Education, the Channel Posts feature serves as a vital tool for facilitating communication and collaboration among educators and students within specific channels dedicated to courses, projects, or extracurricular activities. Within the Channel Posts tab, educators can share announcements, reminders, assignments, and resources with their students in a centralized and organized manner. These posts can include text, links, files, and multimedia content, allowing for diverse forms of communication and content delivery. Students can engage with the posts by liking, commenting, or replying, facilitating interactive discussions and providing opportunities for feedback. Additionally, educators can use Channel Posts to encourage collaboration among students, promote peer-to-peer learning, and facilitate group discussions on relevant topics.

To publish a new post in a given channel, users can easily initiate the process by clicking on the "Start a post" button located at the bottom of the Posts tab window. Upon clicking, a new window (Figure 8-9) will appear, allowing users to configure the information of the post, including its content, formatting, attachments, and audience targeting.

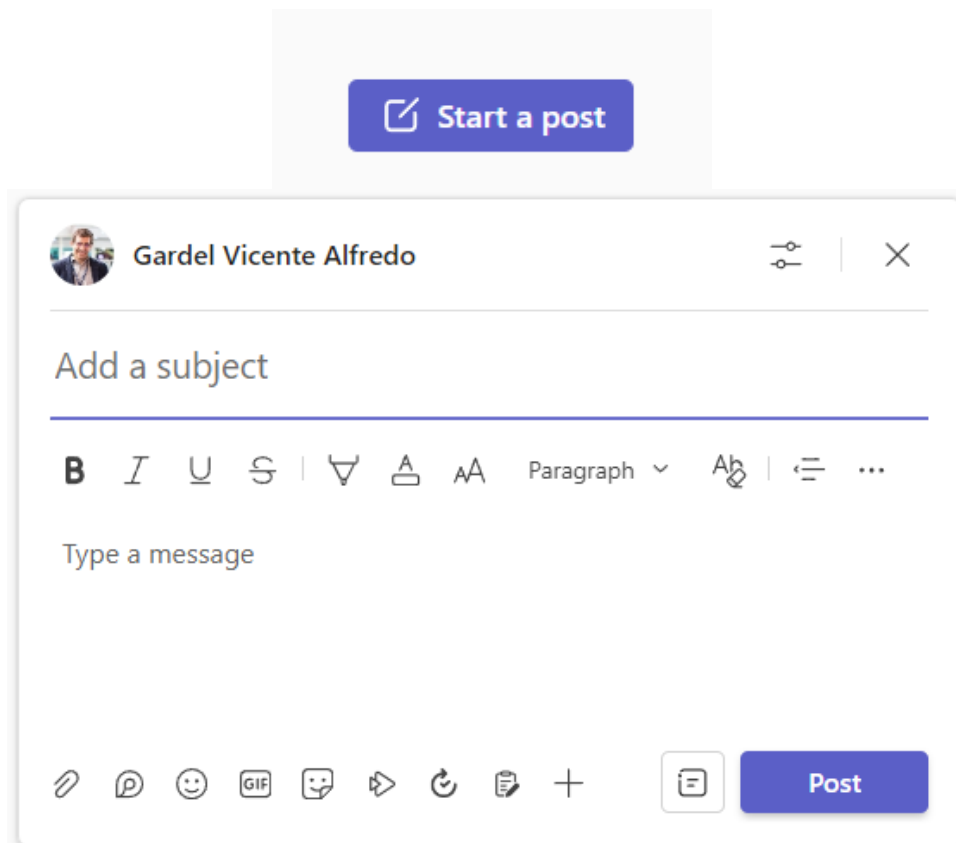


Figure 8-9. Start and compose a new post

An important aspect when composing a post is the @mentions option. When typing “@” followed by the name of a person or group, Teams provides suggestions based on the characters entered, making it easy to select the intended recipient. By @mentioning someone in a post, that person will receive a notification in their activity feed and/or through email, depending on their notification settings.

It is possible to “@” mention a certain groups, such as a team or a specific channel, to notify all members of that group channel simultaneously. When someone is “@” mentioned in a post, their name appears highlighted, making it easy for them to identify messages that require their attention.



Once a post is published on a channel, all the members participant on it can reply. The reply option in Microsoft Teams allows users to engage in threaded conversations by responding directly to specific posts within a channel (fig. 8-10). This feature promotes focused discussions and helps keep conversations organized within the context of the original post. When a user replies to a post, their response appears directly below the original post, creating a clear visual thread of the conversation. Replies can include text, formatted content, @mentions, and attachments, providing flexibility for users to communicate effectively.

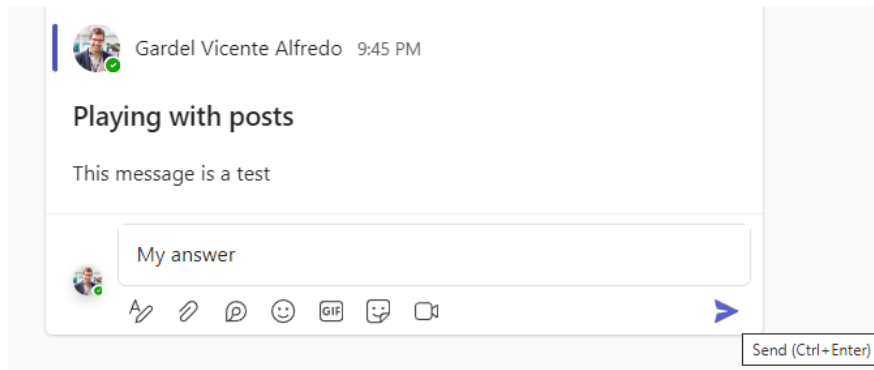


Figure 8-10. Reply a post

8.3.1.1 Interactive posts – loop components

Interactive posts with Loop components in Microsoft Teams represent an innovative way to collaborate and communicate within the platform, enhancing the dynamism and efficiency of the learning path. These features combine the fluidity of real-time collaboration with the structured format of Teams posts, allowing team members to interact and edit shared content directly within the context of a conversation or meeting.

Loop components are a key feature enabling this interactivity. They can include actions like responding to a poll, completing a checklist, or interacting with custom apps directly within the channel. The goal is to foster engagement and obtain quick feedback or input from course participants without requiring them to navigate away from the Teams environment.

Figure 8-11 shows the different loop components that can be included in a post.

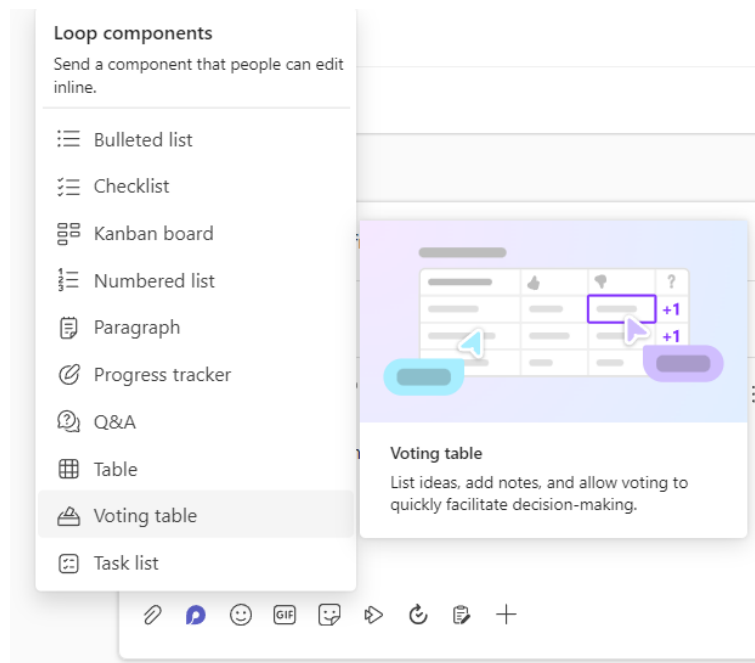


Figure 8-11. Loop components to be added in posts

In the 2024 Teams version the following components can be used:

- **Bulleted List:** Suitable for creating simple, unordered lists for various purposes.
- **Checklist:** Helps in creating to-do lists or tracking items that need to be completed.
- **Kanban board:** Ideal for managing tasks, assigning responsibilities, and tracking progress.
- **Numbered List:** Useful for creating ordered lists where sequence or prioritization is important.
- **Paragraph:** Allows for collaborative editing of text blocks, useful for drafting content or notes.
- **Progress tracker:** define tasks and their progress.
- **Q&A:** collaboratively set up questions and produce different answers.
- **Table:** Facilitates the organization of data and information in a structured format.
- **Voting table:** definition of different choices and allowing seamless voting method to them
- **Task list:** a simple list of tasks to do/complete.

With an interactive post is easy to gather feedback or answers to any question by embedding interactive polls or feedback forms within a Teams post. Let us present a use case for example to obtain feedback. In Figure 8-12, a brainstorming and selection of best concepts is drafted. The course members in the channel propose their ideas in the table and anyone can write down, pros-cons for those ideas/concepts and vote for the ones that they are particularly interested.

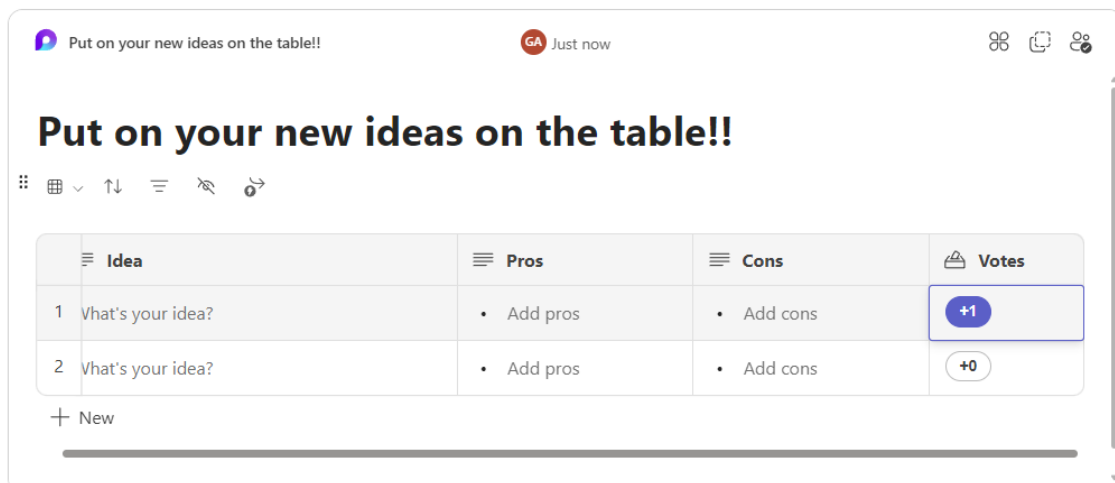


Figure 8-12. Interactive voting table

These interactive components will encourage students' collaboration as they have an area to participate in a common task. Another example is the use of a shared Kanban board. In the area of business, Kanban boards are of large interest to organize work among the members. Figure 8-13 shows a project to do among students participating in a private channel. This space provides a very focused, well-placed area to participate, where also the professor has access to see the development, advances, in the work done. Additionally, the shared loop components included in the can be directly pinpoint in their web application, accessible from the dotted square at the top right of the post window.

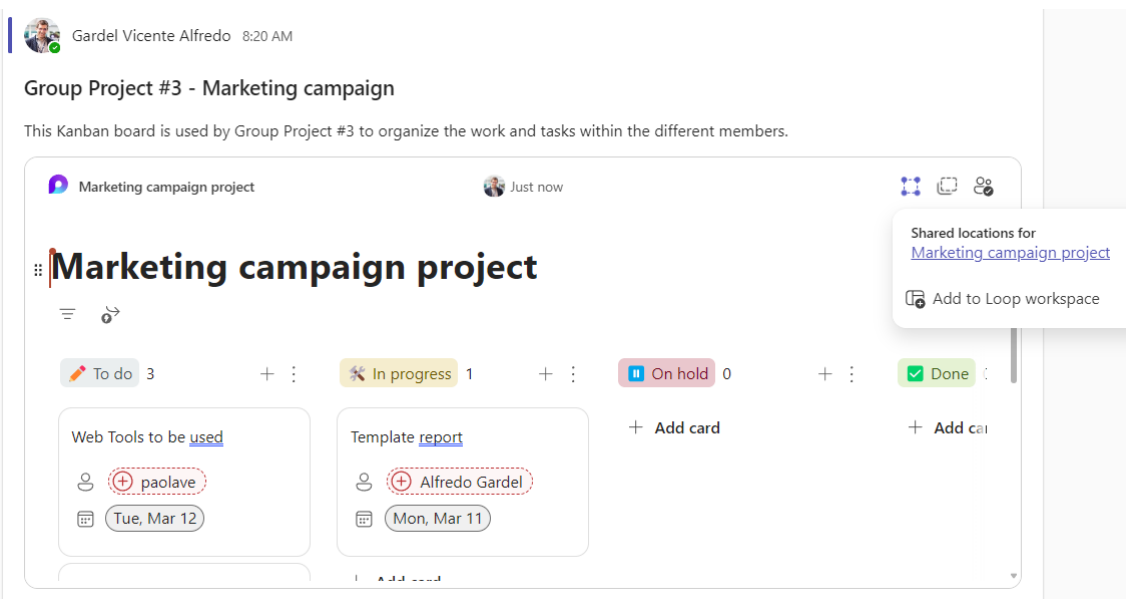


Figure 8-13. Interactive Kanban table

The user can also use these interactive components in the chat of an online class. The meeting is associated with a particular channel and all the chat information and collected data in the online meeting is saved as a post. Then chat area is a way to take in a collaborative way the meeting/class notes. During or after a meeting, participants can contribute to a shared Loop component that contains meeting notes, action items, or decisions made, directly within the Teams meeting chat.



8.3.1.2 Generate an announcement in a new post

In this subsection, we present how to generate an announcement, highlighted post, in a channel. This is accomplished starting a new Post. In the Post type shown in Figure 8-14 the “Announcement” should be selected. Then a large banner title is created. The user should create their message within the text box, utilizing formatting options like bold, italic, bullet points, and @mentions to customize their announcement. Once satisfied with the message, the user can hit the "Post" button to post it to the channel for all members to see (also configurable). For added visibility, the user may consider pinning the announcement to keep it prominently displayed at the top of the channel. This can be done by clicking on the three dots (...) next to the announcement and selecting “Pin” from the dropdown menu.

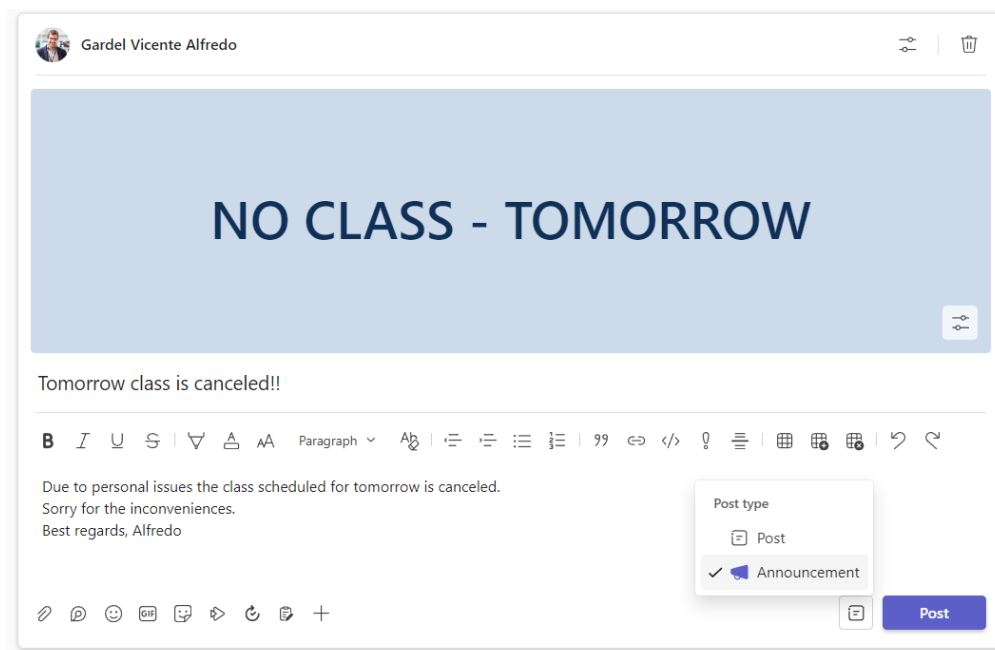


Figure 8-14. Announcement Post type

8.3.1.3 Channel notifications

Email integration with channel posts allows users to receive notifications and updates about channel activity directly in their email inbox. The settings for Channel notifications are configured by clicking in the three dots configuration and selecting the option “Channel notifications” (fig. 8-15).

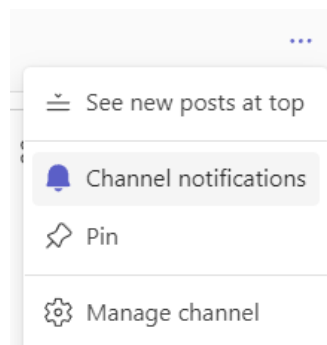


Figure 8-15. Configuration of channel notifications.



When email integration is enabled, users can choose to receive email notifications for various channel activities, such as new posts, replies, mentions, and likes. This integration ensures that users stay informed and can quickly respond to important channel discussions, even if they are not actively using the Teams app. As shown in Figure 8-16 users can customize their email notification settings to control the frequency and types of notifications they receive. For example, they can choose to receive instant notifications for all channel activity, daily summaries, or only notifications for specific types of activities.

Channel notification settings ×

MIIVC - Training Course > General

All new posts
Notify me every time there is a new post in this channel

Include replies

Channel mentions
Notify me each time this channel is mentioned

Reset to default

Cancel Save

Figure 8-16. Channel notification options



9. ASSIGNMENTS

The “Assignments” section allows educators to create, distribute, and grade assignments within their classes. It is a centralized hub where teachers can assign tasks to students, attach relevant resources, set due dates, and provide feedback once the assignment is completed. Students can access their assignments directly from Teams, submit their work online, and receive feedback from their teachers.

In the next subsection, we quickly review how to create and publish an assignment, how students submit an assignment, grading and return the assignment, types of assignments and quizzes using MS Forms.

9.1 TEACHER – CREATE AND PUBLISH AN ASSIGNMENT

9.1.1.1 Steps to set up a new assignment

In this section, we review the different steps to set up an assignment in an online VIC course:

- “Assignments” tab: Within the selected class, go to the “Assignments” tab found in the left-side navigation course bar.
- Create a new assignment: Click on the “Create” button or the “+” icon to start creating a new assignment.
- Fill in assignment details: Enter the assignment title, instructions, due date, and any other relevant details in the provided fields.
- Attach resources: If the assignment requires any additional resources, such as documents, links, or files, use the “Attach” button.
- Select assignment type: Choose the type of assignment, standard assignment, quiz or reuse.
- Set points: If applicable, assign points value to the assignment.
- Assign to students: Specify which students or groups the assignment should be assigned to.
- Review and publish: Review the assignment details to ensure everything is accurate. Click the "Assign" button to make the assignment visible to students.

9.1.1.2 Set up a Class Notebook section related to the new assignment

To make an example for an assignment, next we will set up a homework assignment to be done for all the students. Then, we select in the Class Notebook where to include the assignment information, for example, on the Content Library, create a new section with the title Homework. Then include on that section/page additional information about the contents the student needs to read or study, as well as what activity or practice they must perform in the assignment. The particular content of the page is out of the scope of this documentation (fig. 9-1).

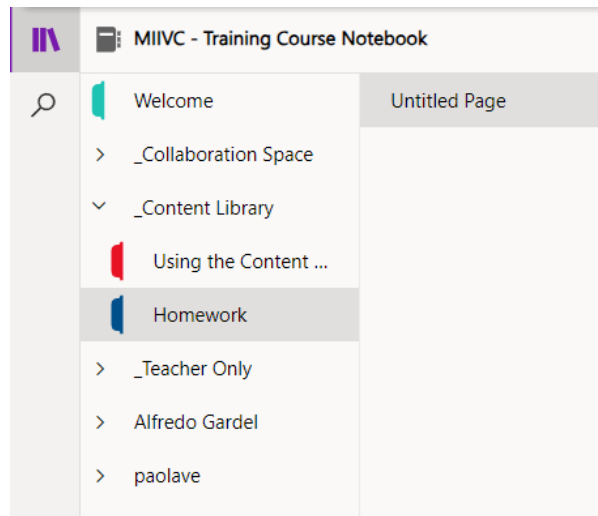


Figure 9-1. New section and page located in the Content Library

9.1.1.3 Create the new assignment

Going back to the topic, the first step is to go to the Assignment tab as shown in Figure 9-2, and click on “Create”.

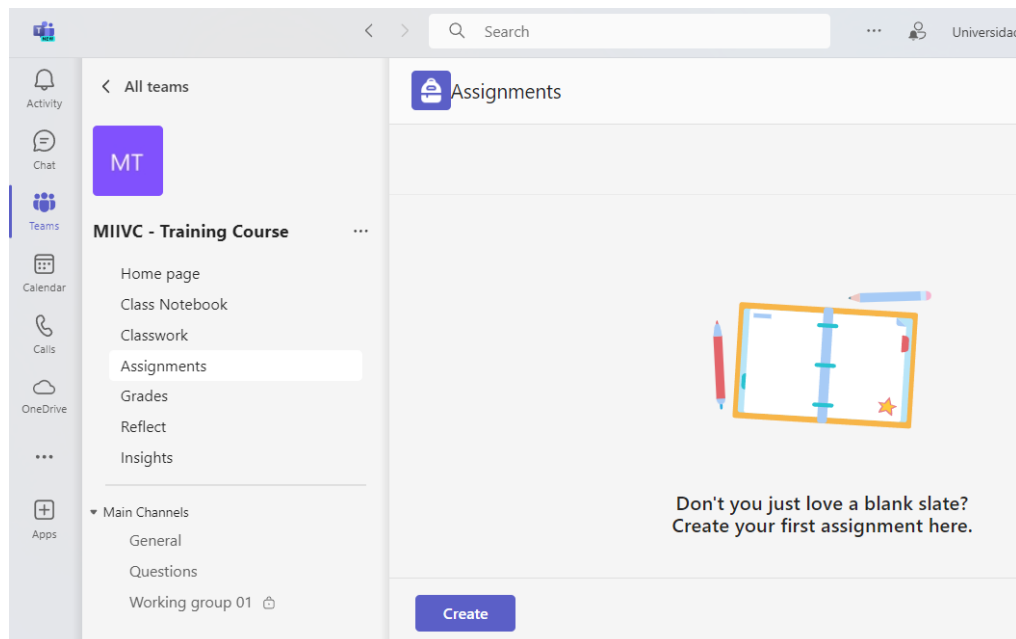


Figure 9-2. Assignments option in the online course

There are several options to create a new assignment (Figure 9-3): standard assignment, new quiz based on MS Forms or duplicate an assignment from an existing one.

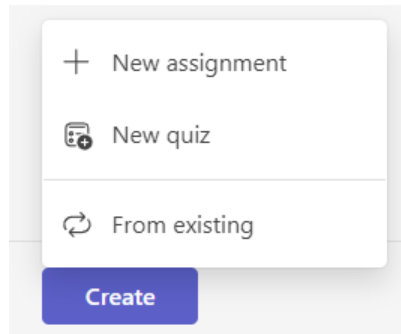


Figure 9-3. Create options for new assignments

Figure 9-4 shows the window to compose a new assignment. Multiple information, text, graphics, lists, images, links to external webpages, etc. can be included on the text box.

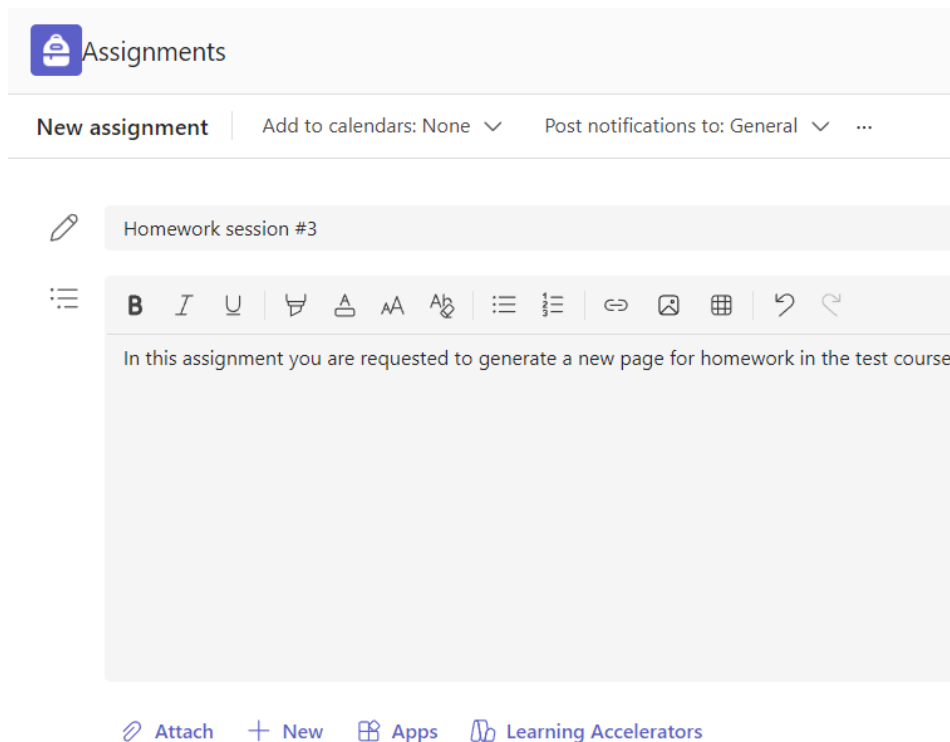


Figure 9-4. Composing a new assignment

Additional to the instructions box, there are several options (Figure 9-5) to attach documents and provide more information for the student to do the assignment: a file from OneDrive or local drive, Class Notebook, Links, etc. If we have set up in the same course the information on the Class Book, Homework section, then it is possible to link it to the assignment and select if we assign the page for students to read only or also is possible for them to edit their own copy. The latter option is particularly interesting for assignments, to select where that document will appear on the student’s course section: hands-out, homework, etc.

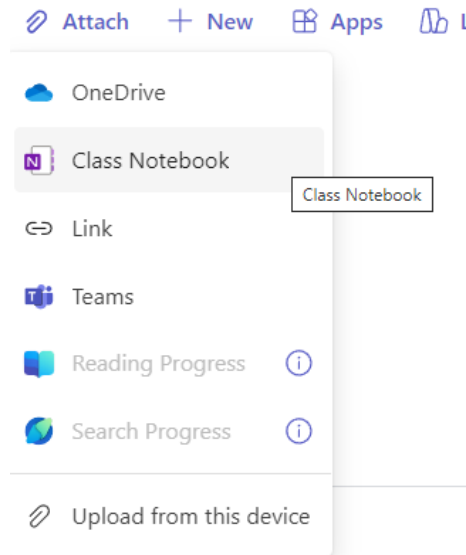


Figure 9-5. Attach options for a new assignment

Then, after configuring the different parameters for the new assignment, all the values could be reviewed, and once the configuration is finalized, assign the task to the selected students (Figure 9-6). If more information is required and is not possible to finalize it, the assignment can be saved as a draft for future definition.

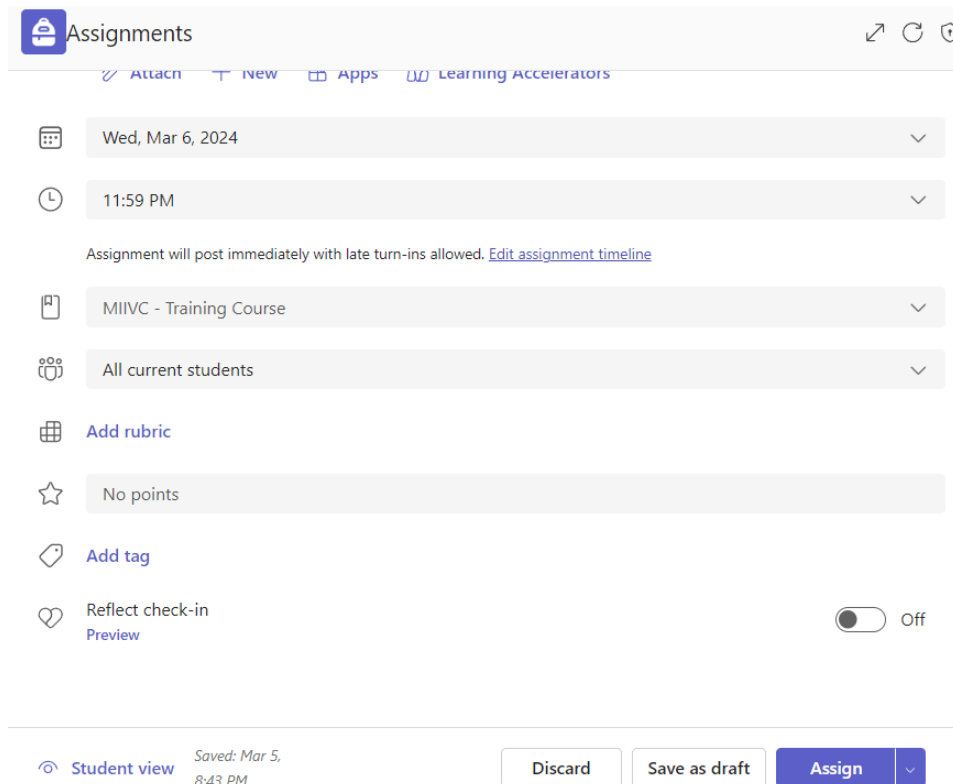


Figure 9-6. Configuration overview for the new assignment



9.1.1.4 Assignment dates

Figure 9-7 shows the configuration values for the assignment timeline. The schedule date (optional) is when the assignment becomes visible to students. It serves as the start date for the assignment. The due date is the deadline by which students must complete and submit the assignment. The close date (optional) is the date when the assignment is no longer available for submission. After this date has passed, students will no longer be able to submit their work for the assignment.

Edit assignment timeline

Schedule date ⓘ Off

Due date ⓘ

Close date ⓘ Off

Assignment posts immediately and is due on Wednesday, March 6 at 11:59 PM. Late turn-ins allowed.

Figure 9-7. Configuration of schedule date, due date and close date for the assignment

9.1.1.5 Assigning tasks to different students

There is an option to configure and direct the assignment for assigning tasks to students (Figure 9-8). The professors can direct assignments to the current students, ensuring that only enrolled students receive and complete the tasks. Alternatively, instructors can prepare assignments in advance that could be done for future enrollment periods, facilitating seamless organization and preparation for upcoming classes or semesters. Additionally, tasks can be tailored to specific individual students, allowing for personalized assignments that accommodate unique needs and target specific learning objectives. Moreover, instructors have the option to create groups within the class and assign tasks collectively to these groups.

- All current students
- All current students
- All current and future students
- Individual students
- Groups of students

Figure 9-8. Configuration of students that will do the assignment



To divide the students in different groups to do in common an assignment there are 2 options to group students: manually or randomly (Figure 9-9).

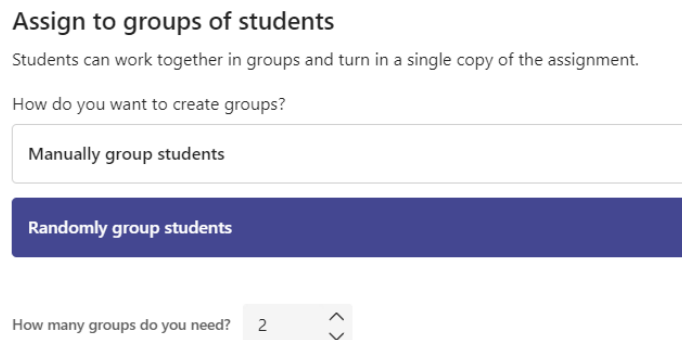


Figure 9-9. Creation of groups of students to do the assignment

9.1.1.6 Distribute the assignment

Once finalized the composition of the assignment and selecting the students to do it, we can preview the assignment, and if everything is correct, we can choose to send the assignment now or Schedule a future date to assign it (Figure 9-10).

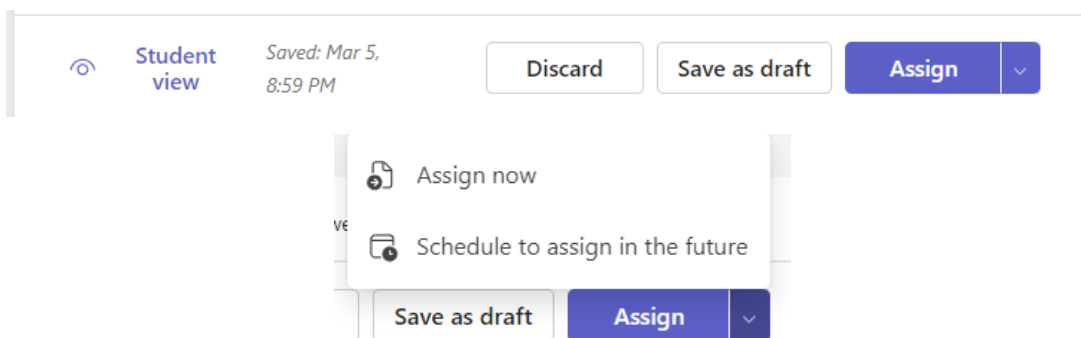


Figure 9-10. Assign options – now or schedule in the future

A new post in a course channel is published when the assignment is sent. The channel to post can be configured as shown in Figure 9-11.

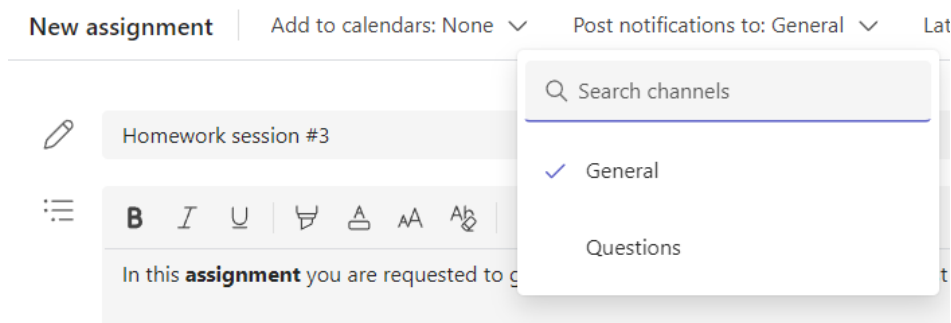


Figure 9-11. Configure the posting channel to announce the assignment

Then, in the selected channel, we can show the post with the assignment information (Figure 9-12).

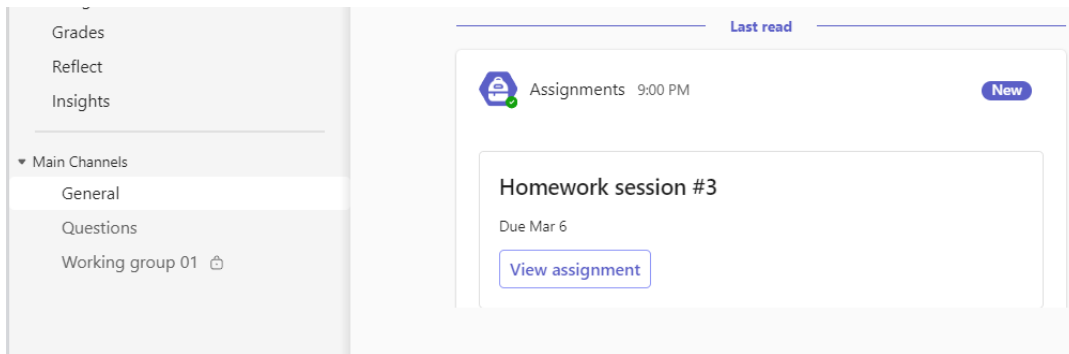


Figure 9-12. New post with the announce of the assignment

9.1.1.7 Review and check assignments

A valuable aspect of the Assignments tab is the ability to monitor the progress of the tasks assigned to students. The assignment main page shown in Figure 9-13, lists the upcoming ones, student submissions that are ready to be graded, past-due assignments, and also the returned and draft ones.

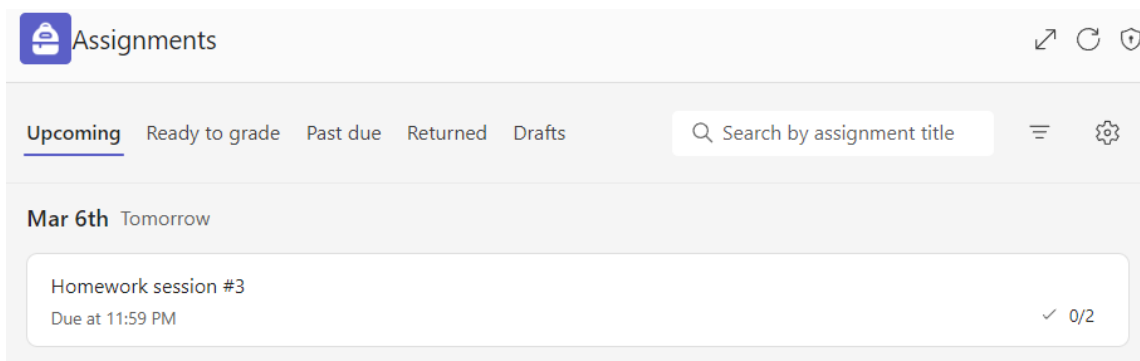


Figure 9-13. Main page for the Assignments section in the online course

From this window, we can edit, obtain a link, duplicate, make inactive or delete any assignment (Figure 9-14).

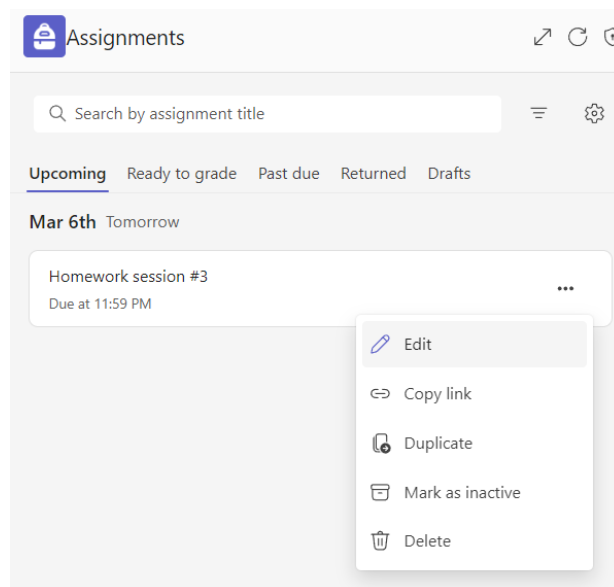


Figure 9-14. Management options for an assignment



Also in the assignment post published on a channel, by clicking on the “View assignment”, the professor goes directly to see the list of students’ submissions for that particular assignment (Figure 9-15).

Homework session #3
Due tomorrow at 11:59 PM

To return (2) Returned (0) Search students

<input type="checkbox"/>	Name ▾	Status ▾	Feedback	/ 10
<input type="checkbox"/>	Alfredo Gardel	<input type="checkbox"/> Not turned in		Points
<input type="checkbox"/>	paolave	<input type="checkbox"/> Not turned in		Points

Figure 9-15. List of students’ submissions for the assignment

Once a student sends the assignment, the professor can grade it and if desired, for example, when all the students are graded, return the results to the student.

If an assignment is edited and updated, for example, changing the due date, then, in the same post of the selected channel, the information is also updated, as it is shown in Figure 9-16.

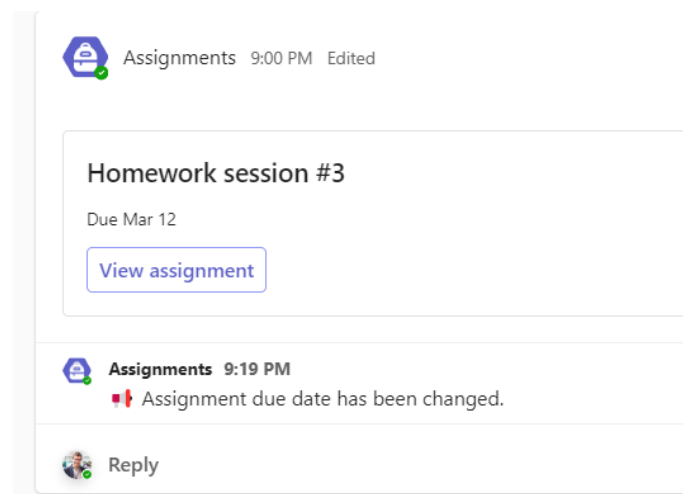


Figure 9-16. Modification of the post related the assignment

9.1.1.8 Default assignment values

Finally, it is worth mentioning that in the settings wheel icon for the Assignments the default set up values are shown (Figure 9-17). A default due date time, which calendar is updated with the assignment dates, channel to post notifications related to the assignment, include the assignment to future students actually not enrolled, etc.

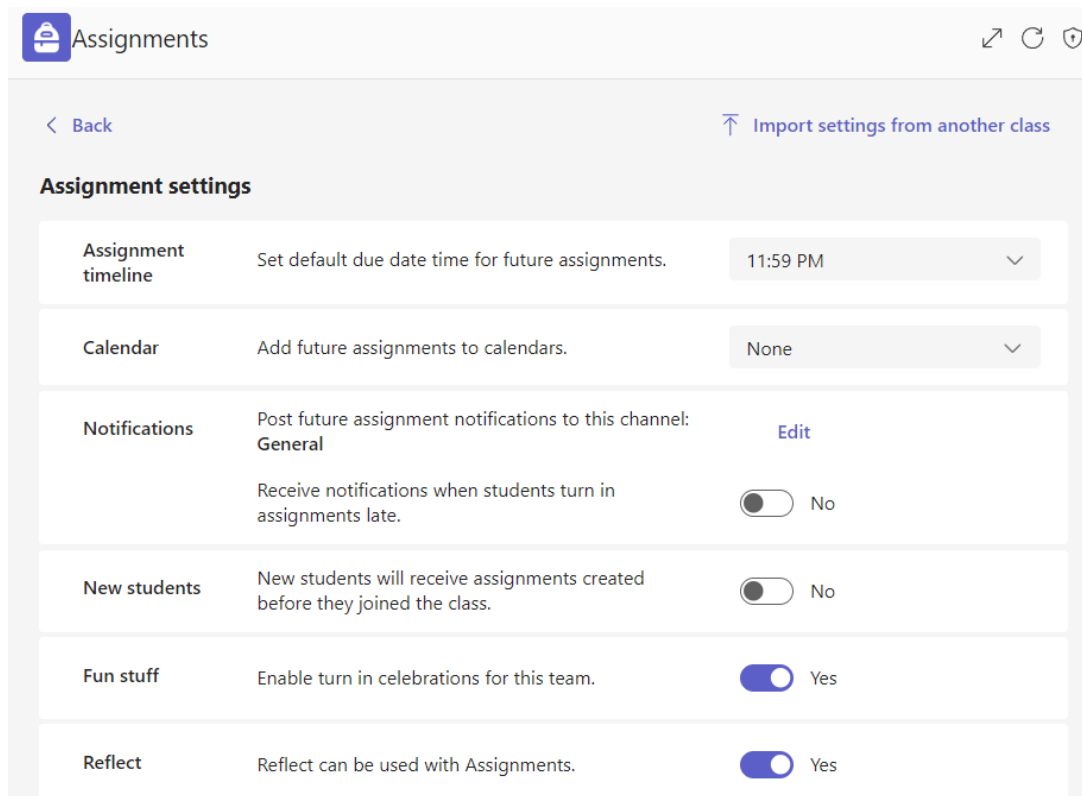


Figure 9-17. Assignments default configuration settings

9.2 STUDENT TURNING IN AN ASSIGNMENT

Each student can access his or her assignments from the left-side navigation bar. In the Figure 9-18 is shown an example with an upcoming task to be done by the student, with a due date. Also past-due and completed assignments can be listed.

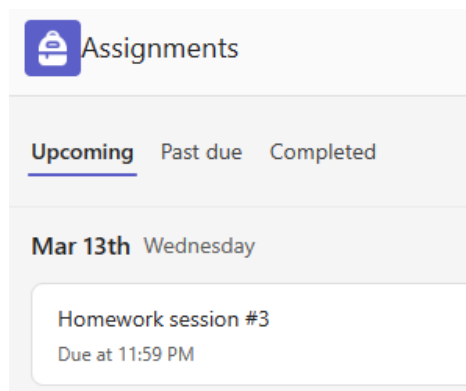


Figure 9-18. Upcoming assignments for the student

Then accessing the assignment, the student can see the instructions to complete the task. In this case a notebook OneNote file is attached to be modified accordingly (fig. 9-19).

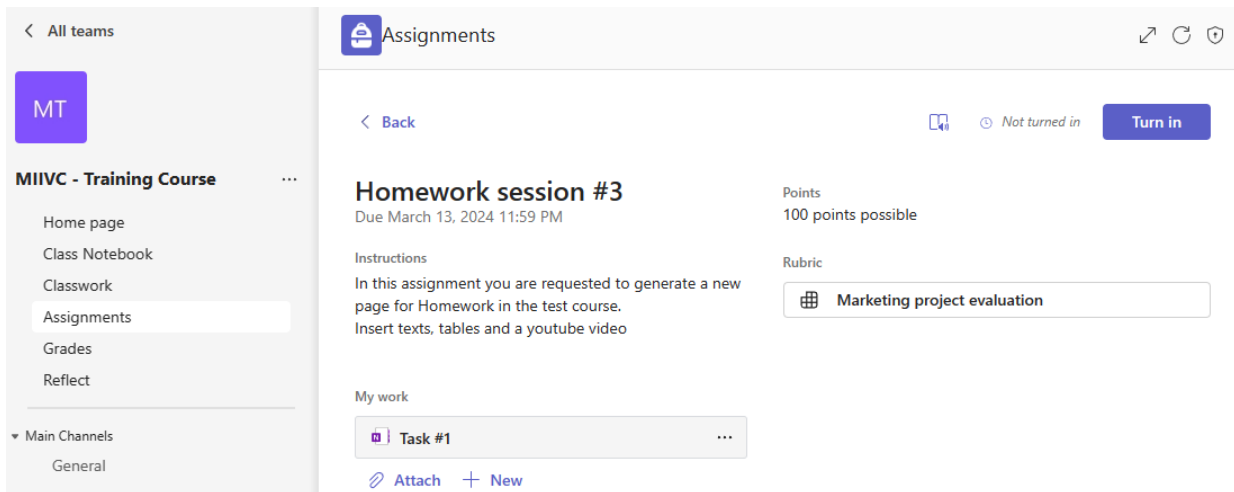


Figure 9-19. Assignment shown in the student's area

The copy of the attached Notebook is included in the so-called “student’s name” section of the course Class Notebook with several sections such as Homework, extra-practices, quizzes and others. In this case, the copy of the assignment Notebook is below the Handouts section as shown in Figure 9-19.

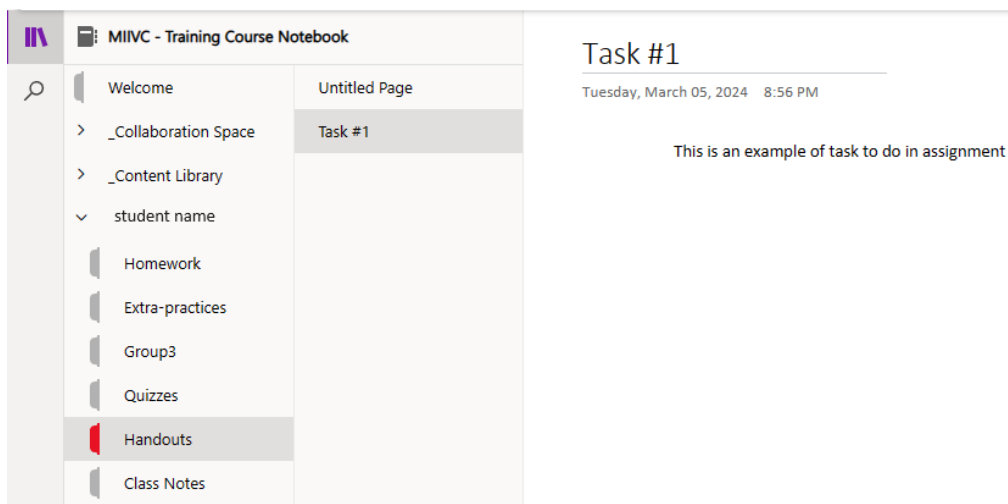


Figure 9-20. Handouts section created in the student's area to complete an assignment

Once the assignment is completed, the student must click on the button “Turn in” at the top-right side. If the due date is not overpassed, the student can “Undo turn in” to modify the assignment.

9.3 CREATE RUBRICS AND EVALUATION CRITERIA

When creating or editing an assignment in Microsoft Teams, instructors have the option to attach a rubric to provide clear evaluation criteria for students. This feature allows educators to ensure that assessment standards are transparent and consistent across all submissions. To attach a rubric, instructors navigate to the assignment creation or editing interface within Microsoft Teams.

Then educators must design the rubric according to the assessment criteria specific to the assignment. This involves opening a rubric document in Microsoft Excel and structuring it to reflect the performance levels or descriptors for each criterion. Educators should carefully consider the learning objectives and outcomes of the assignment when designing the rubric, ensuring that it effectively evaluates students' understanding and mastery of the material. Each criterion should be clearly



defined, with corresponding point values or scores to facilitate accurate grading. In Figure 9-21 it is shown an example of a generated rubric for the evaluation of a Marketing project. We can edit the rubric directly from MS Teams or reuse a downloaded CSV file from other rubric, and upload it.

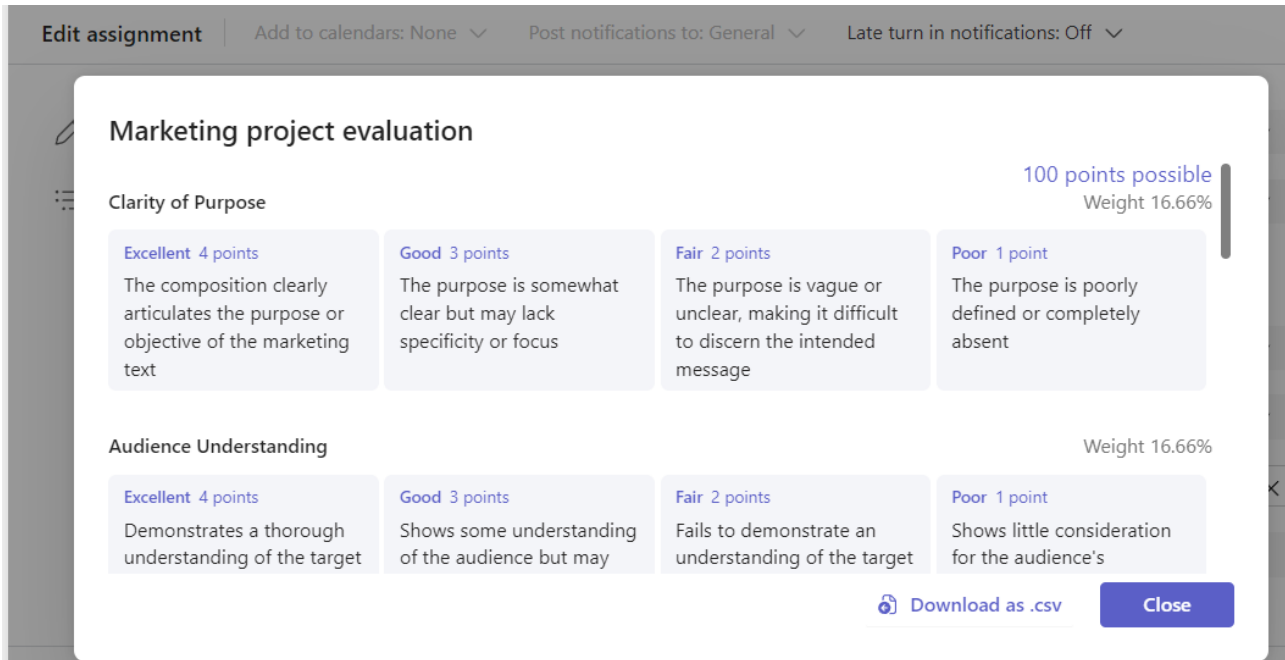


Figure 9-21. Rubric example for the evaluation of a Marketing project

After designing the rubric, the evaluation criteria is then uploaded to the assignment in Microsoft Teams, where it becomes accessible to students alongside the assignment instructions. This integration of the rubric into the assignment workflow streamlines the assessment process for both educators and students. Students can refer to the attached rubric while completing their assignments, ensuring they understand the expectations and evaluation criteria. This transparency empowers students to self-assess their work before submission and facilitates constructive feedback from instructors during grading.

More information about rubrics in MS Teams for education can be obtained from the following link [Create and manage grading rubrics in Microsoft Teams - Microsoft Support](#)

9.4 RETURN TURNED-IN ASSIGNMENTS

The teacher in the assignments list, once a student turns-in an assignment, this can be evaluated and return the grade to the student. Below it is shown an example with a rubric used to evaluate easily the work and provide some feedback text to the student (fig. 9-22).



Student Work

✓ Turned in [View History](#)

📄 Task #1
⋮

[Take action in student view](#)

Rubric

📄 Marketing project evalu...
↗

Feedback

The document can be improved with more data and references.

🗑️ 🔗 +

Points

66.64 / 100

Return
▾

Figure 9-22. Assignment grading

From this moment, editing a returned assignment is not allowed, so the student view of assignment changes accordingly to Figure 9-23 where the student can review the grades and feedback evaluation.

[← Back](#)

📄
← Returned Mon, Mar 11, 11:49 PM

Turn in again

Homework session #3

Due March 13, 2024 11:59 PM

Instructions

In this assignment you are requested to generate a new page for Homework in the test course. Insert texts, tables and a youtube video

My work

📄 Task #1
⋮

[📎 Attach](#) [+ New](#)

Feedback

The document can be improved with more data and references.

Points

66.64 / 100

Rubric

📄 Marketing project evaluation

Figure 9-23. Completed assignment with the evaluation grades, corresponding rubric and feedback text



9.5 CREATE A QUIZ WITH MS FORMS

In addition to standard assignments, Teams offers the option to create quizzes using Microsoft Forms. This is a versatile tool for educators in online courses, so they can generate/share quizzes tailored to the course topics, allowing for diverse question formats such as multiple-choice, text, or rating scale. Each question can be assigned point values, enabling precise grading. For this option, click on “New quiz” from the assignment “Create” button as shown in Figure 9-24. Then, we can click on “+” add quiz for a new one, or select a previously done form.

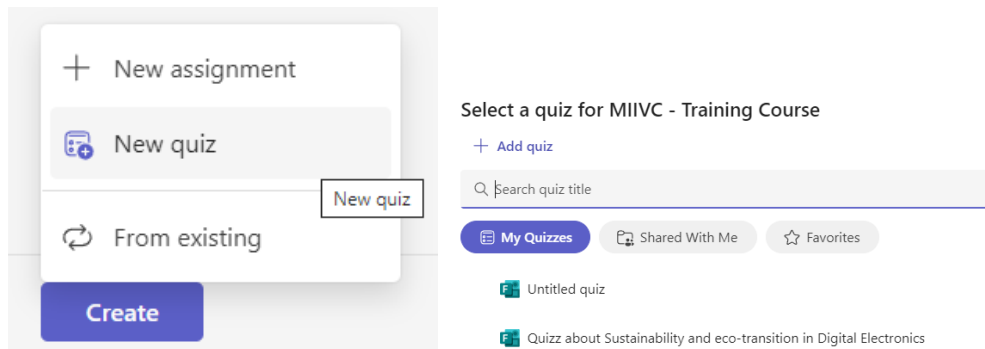


Figure 9-24. New quiz assignment

In this example, we reuse a previous Quiz form to be attached to the assignment (Figure 9-25).

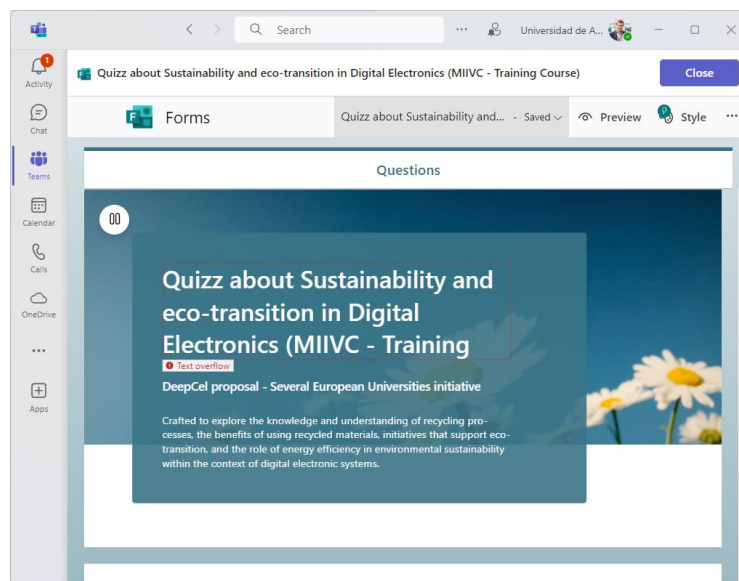


Figure 9-25. Attached form to the assignment

The options for Quizzes are similar to standard Assignments except that Quizzes obtains the grading points from the MS Forms tool, and also, there is an option to limit the time to answer the Quiz (Figure 9-26).

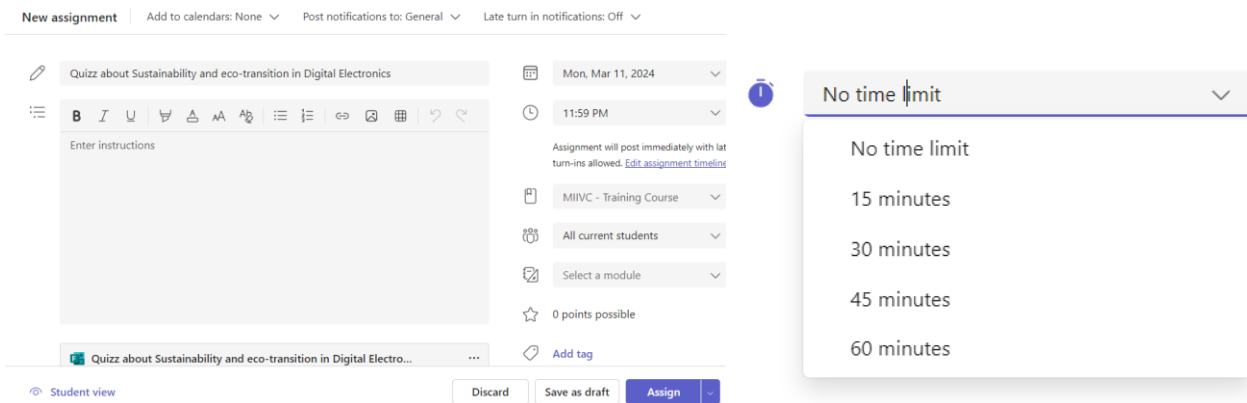


Figure 9-26. Form attached in a Quiz assignment and time limit configuration

In the Quizzes from MS Forms, the tool provides the obtained points. However, the student does not see the current grade until the teacher returns the assignment evaluation to the student.

In-depth MS Forms description is out of the scope of VIC documentation. More information could be obtained from the following link: <https://support.microsoft.com/en-us/office/create-a-form-39a23830-452d-474c-ae1f-47a6ebefa21a>



10. GRADES

Grades in new Microsoft Teams for Education are available in the list of topics at the left-side navigation bar (Figure 10-1).

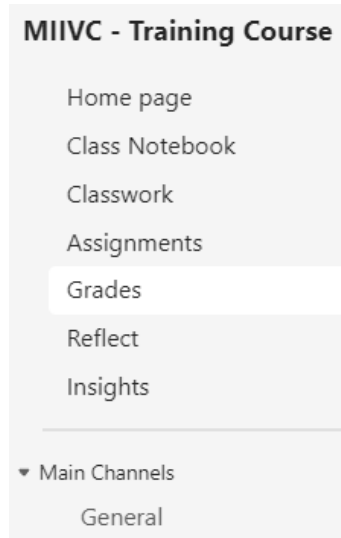


Figure 10-1. Grade section in the online course

Under the Grades tab, the teacher can display the list of their students along with each of the activities that have been assigned. Teacher view of course grades include a list of all the students and summary of their different completed assignments and corresponding grades obtained. Figure 10-2 shows the view for Grades course where the students are the first row of a table that has in each column the grades for each one of the different assignments. There are students who have not received a grade. From this view, instructors can go directly to the assignment instructions by clicking on the task title. Additionally, the tool offers to export the grades to an Excel table for later processing.

	Homework session #3 Mar 13th • 100 points	Quizz about Sustainability and eco-transition in Digital Mar 7th • 10 points
Search students		
Class average		
AG Alfredo Gardel	9	
D demostudent01		
GD Gardel Varona, Daniel	66.64	
P paolave	8	

Figure 10-2. Grades summary of the online course

In each grade evaluation we can click on the three dots for more options, where the teacher has the ability to open the student's work or give feedback on the grade obtained (Figure 10-3).



Homework session #3 Tomorrow • 100 points	Quiz about Sustainability eco-transition in Digital Mar 7th • 10 points
9	...
66.64	
8	

- Open student work
- Return
- Return for revision
- Mark as excused and return

Figure 10-3. Review the grade for a particular assignment

Grades area is quite useful for a teacher, as it allows them to have an overall visibility of all their students, regarding the submission of their assignments and corresponding grades.

Each student, in the Grades section has information about the grades obtained in each assignment, as a summary list where all the grades are included (Figure 10-4).

Due date ▲	Assignment ▼	Status ▼	Feedback	Grade ▼
Mar 13th	Homework session #3	← Returned	🗨	66.64/100

Figure 10-4. Student grades summary list for the assignments returned in the online course



11. REFLECT

Educators often face challenges while obtaining the emotional well-being of students. This is a crucial aspect for providing appropriate support and guidance, promoting engagement, productivity, collaboration, and overall group dynamics. The Reflect messaging extension in Teams for education ([Microsoft Reflect | Encourage connection, expression and learning](#)) addresses this need by enabling course members to cultivate awareness of their own emotions and those of their peers during conversations within Teams. Through simple, yet effective emotional check-ins seamlessly integrated into the flow of dialogue, reflect empowers users to express and acknowledge their feelings, promoting a supportive and empathetic environment. Educators can inquire about emotional state or discuss specific topics, such as assignments, remote learning or work experiences (see welcome message for “Reflects” messaging shown in Figure 11-1).

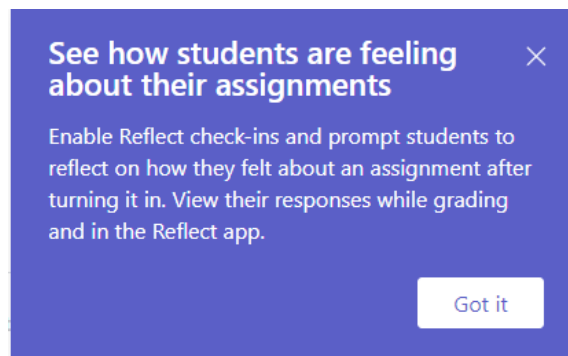


Figure 11-1. Reflect welcome information

In this way, for instance, when creating a new assignment, educators can collect information from students feel about their tasks by asking questions like, “Do you feel overwhelmed with extra work this week?” and adjust the required support strategies accordingly. Figure 11-2 shows the different possibilities to quickly add a new check-in for the course students.

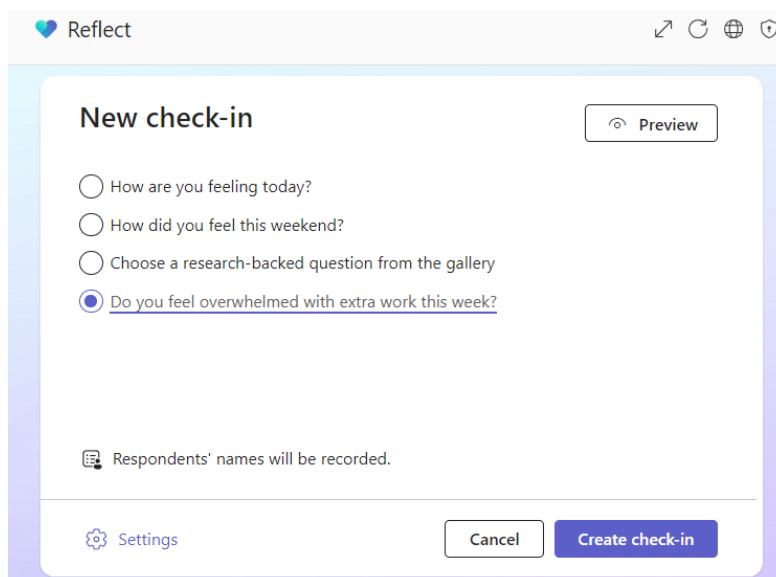


Figure 11-2. New Reflect check-in question

The Reflect tool provides different settings for the check-in questions, such as the period time to answer, selection of emotion “vocabulary” (broad – with up to showcases 60 different emotions or



simple), select the channel where to post the question, record or not the respondent names (fig. 11-3).

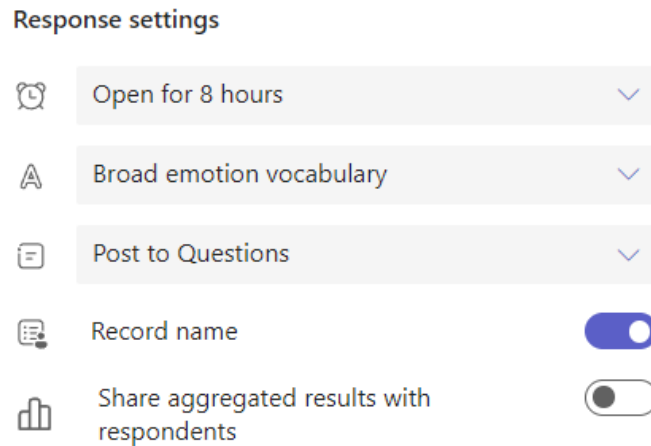


Figure 11-3. Reflect check-in settings

This proactive approach facilitates open communication and promotes a sense of connectedness within the group, ultimately enhancing collaboration and well-being. To answer the Reflect question is straightforward with no extra time required (Figure 11-4.)

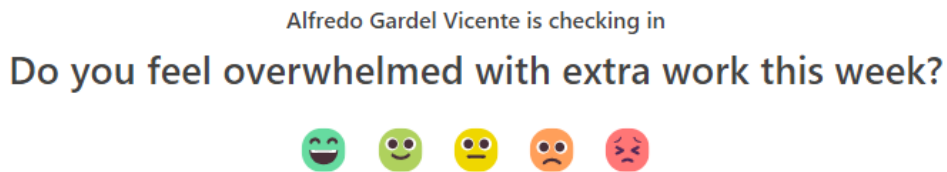


Figure 11-4. Student answer to the Reflect check-in question

Besides, for each student a figure can be selected from a large identification chart (icon drawings with animals). The answers are collected and shown in the Reflect section (Figure 11-5).

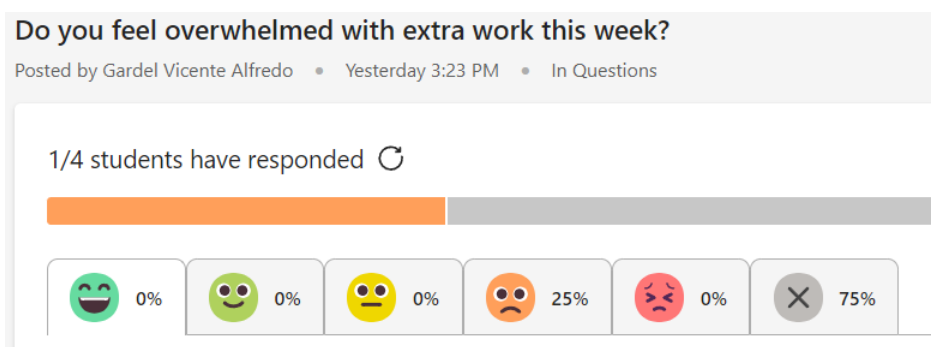


Figure 11-5. Student responses ratio and data

Finally, there is a tab to review the emotional trends (Figure 11-6). By analyzing patterns and fluctuations in emotions, educators can identify potential issues or areas of concern.

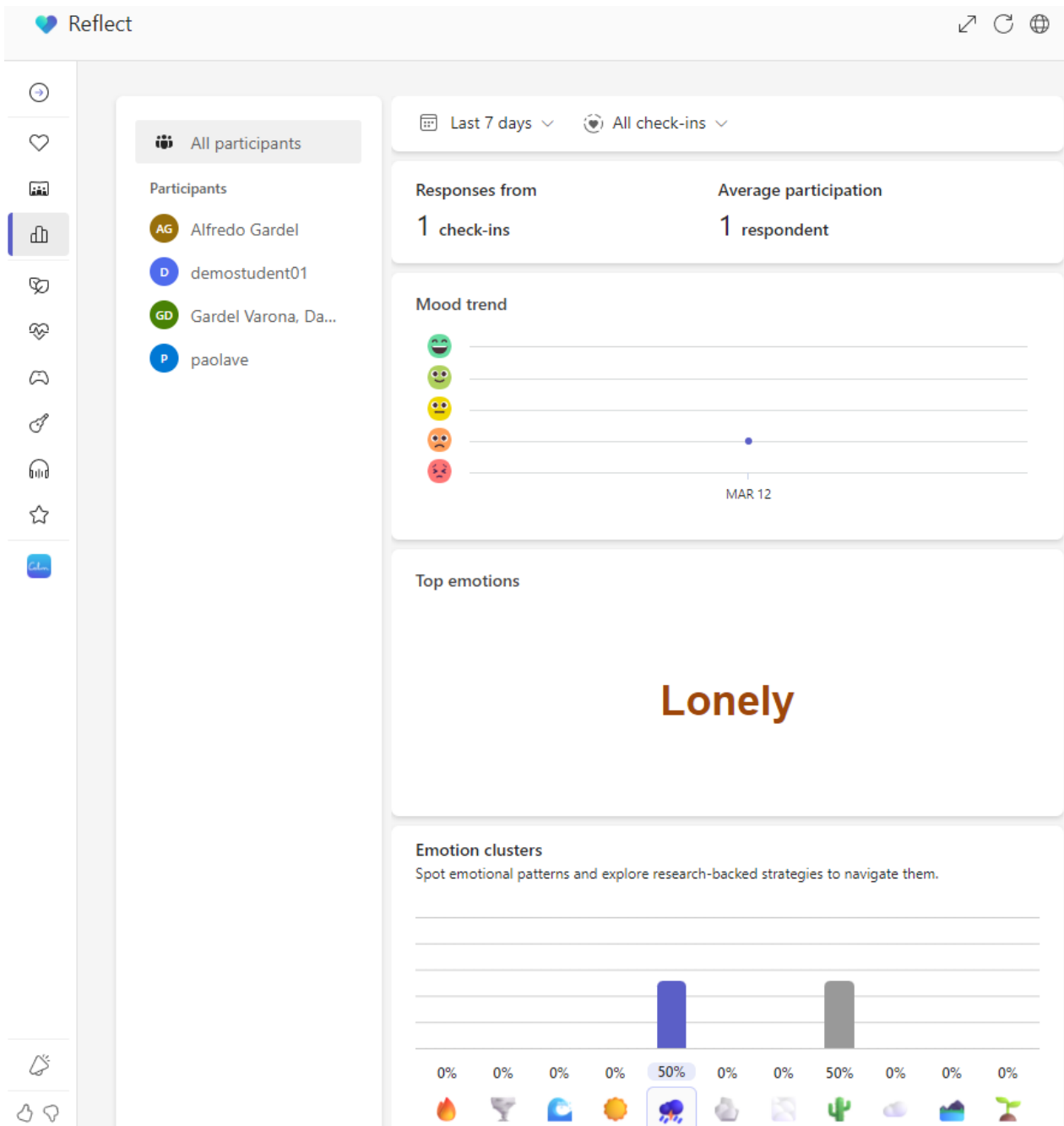


Figure 11-6. Emotional trends responses

Two main aspects are shown:

- **Mood trend:** allows educators to visualize changes in the overall mood of their group over time and identify patterns that may require attention. The mood trend provides a graphical representation of emotional fluctuations within the group, displaying changes in mood levels over a specified period. The timeframe for the mood trend graph can be modified to analyze short-term or long-term trends, enabling proactive responses to negative patterns or fluctuations in emotional well-being.



- **Top Emotions: Reflect** aggregates data on the most prevalent emotions expressed by users within Teams for Education. By identifying the top emotions, educators can gain insights into the overall mood and sentiment of their groups.

Understanding mood trends and common emotions among students enables educators to tailor interventions, adjust teaching strategies, and offer additional support as necessary, thereby promoting a supportive and inclusive learning environment. By prioritizing initiatives aimed at promoting positive well-being and addressing prevalent emotions, educators can create a conducive atmosphere for student growth and success.

The information collected from the Reflect section is shared with the Insights app that is next described.

The Reflect app provides feedback and emotional cues to students. For example, Figure 11-7 presents several options to relax and distress the student.

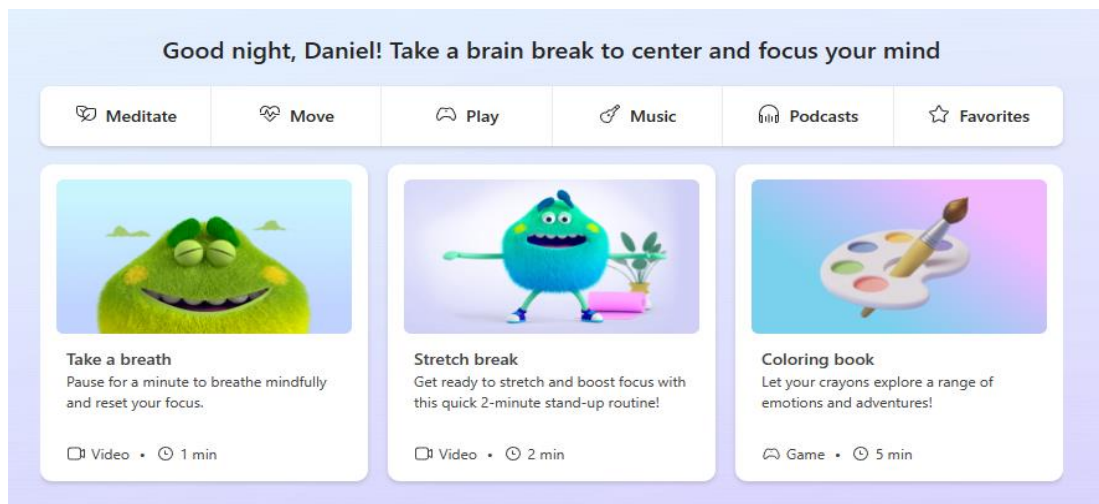


Figure 11-7. Reflect options to relax and distress the student

An example of a student response in the Reflect section is shown below (fig. 11-8).

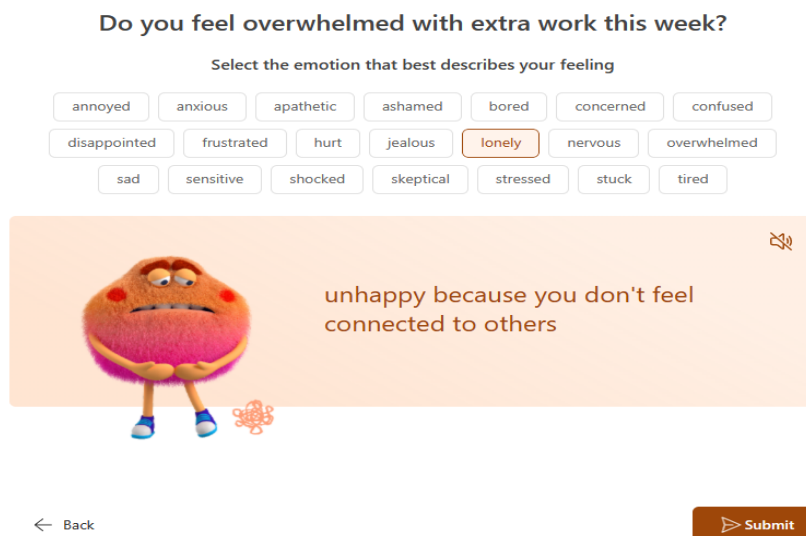


Figure 11-8. Reflect response example from a student to a check-in question of the online course



12. EDUCATION INSIGHTS

The Education Insights app in Microsoft Teams for class teams offers a comprehensive analytics dashboard designed to enhance the educational experience for both instructors and students. By integrating directly within the Teams environment, the Insights app provides real-time data and analytics that help educators understand student engagement, participation, and overall class dynamics.

Only teachers of the online course can access Insights (left-side navigation bar shown in Figure 12-1).

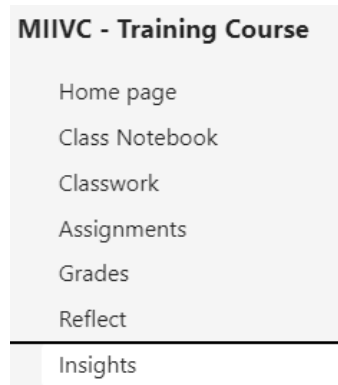


Figure 12-1. Access to Education Insights for the online course

First time the instructor gains access to the Education Insights app the welcome window shown in Figure 12-2 appears, with a summary of the main actions.

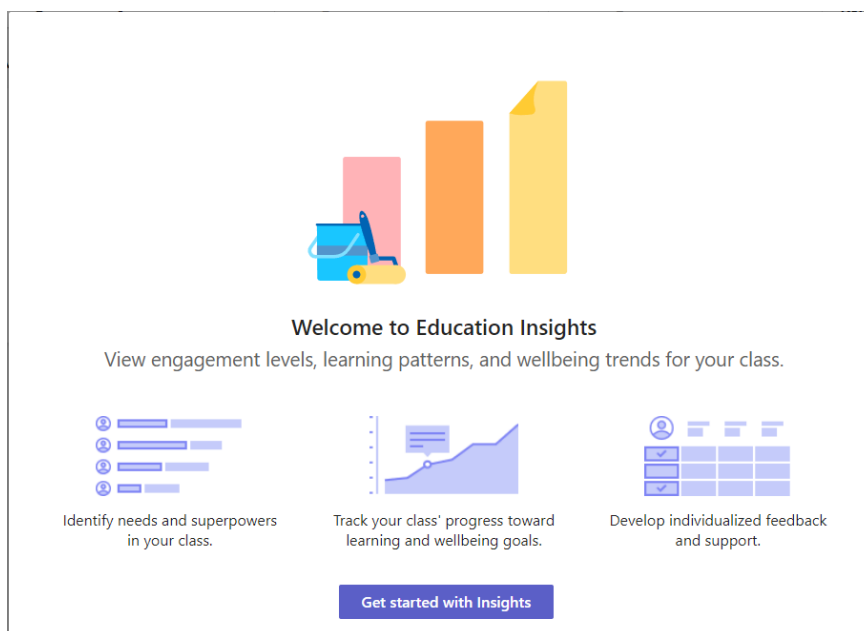


Figure 12-2. Education Insights welcome window

Some of the key features of the Education Insights app are the following:

- Track how students are interacting with course materials, assignments, and discussions. This feature helps educators identify students who are actively participating and those who may need additional support.



- **Assignment Analytics.** Offers detailed insights into assignment completion rates, allowing teachers to monitor progress and identify trends over time. This can help in adjusting the pace or difficulty of the coursework.
- **Attendance Tracking:** Simplifies the process of recording and analyzing attendance for virtual or hybrid classes. Teachers can easily see attendance patterns and follow up with students as necessary.
- **Communication Overview:** Analyzes communication within the class team, including number of posts, replies, and mentions. This helps educators gauge the level of collaboration and interaction among students.
- **Well-being check-In:** Enables educators to conduct well-being surveys to understand students' emotional and mental health states through the Reflect messaging app discussed before. This feature supports the creation of a supportive learning environment tailored to student needs.

Teachers can customize the Insights app view for Digital Activity, Assignments, etc. to focus on the metrics and dates that matter most to them, ensuring they have the information they need at their fingertips. Besides, the Insights app is designed with privacy in mind, ensuring that data is handled securely, and access is restricted to authorized instructors only.

Figure 12-3 shows an example of the Digital activity of the last week for the students on the online course.

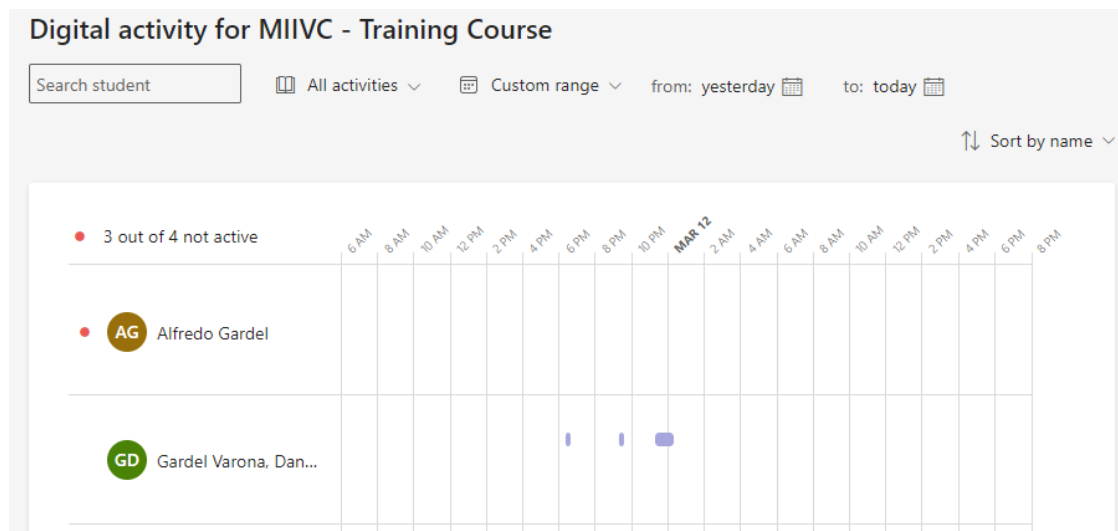


Figure 12-3. Insights app example

By leveraging the Insights app, educators can make data-driven decisions to enhance teaching strategies, improve student engagement, and foster a more inclusive and productive learning environment.

Teachers can access analytical data on student engagement and performance. This component gathers student activity in Microsoft Teams, such as grading, the assignment process, communication activities, and file collaboration, creating an analytics dashboard that surfaces actionable data.

It is important to note that students do not have access to the information that is collected. Only the teacher can view it. Moreover, it is not necessary to publish this information in the channel since it is information that only interests the teacher.



Automatically the system will show a report of all the assignments that were submitted on time, late, or are yet to be submitted. All this data can be very useful for the teacher to make decisions (fig. 12-4).

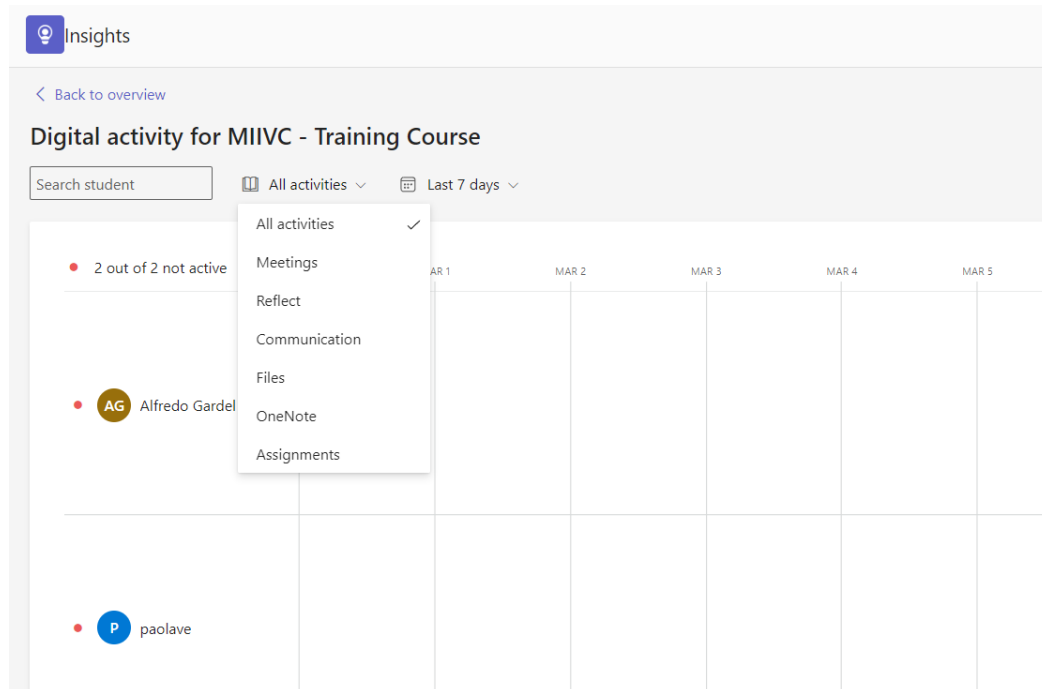


Figure 12-4. Digital activity for the students

13. ONLINE CLASSES

In this section, we will discuss the setup, participation and good practices to use in online/virtual classes. It is recommended to generate a dedicated channel for the virtual lectures and classes. This channel will have all the details related to the scheduled classes, details about coming lectures, preparation and documents to read previously to attend the online classroom, etc.

We will see in the next sections several options to create new online meetings using the calendar tool or dedicated course channels to prepare the online classes.

13.1 PARTICIPANT ROLES

Within the Microsoft Teams for Education environment, the delineation of participant roles is essential for managing classroom interactions, facilitating learning activities, and ensuring a structured and effective online educational experience. These roles are designed to mirror the traditional classroom hierarchy, adapting it to the digital space to empower educators and engage students.

The different roles in meetings are the following:

- **Presenter:** Within the context of a meeting, the Presenter role can be assigned to both Owners and Members, granting them the ability to share content, manage meeting controls, and facilitate discussions. This role is particularly useful in scenarios where students are presenting projects, leading discussions, or conducting peer-teaching sessions, allowing for a dynamic and participatory classroom environment.



- **Attendee:** The Attendee role is characterized by viewing permissions, enabling participants to join meetings, view presentations, and participate in discussions without the ability to alter meeting settings or share content. This role is suitable for larger lectures or situations where a more controlled environment is necessary to maintain focus and order during the educational session.

13.2 MEET NOW IN A CHANNEL

At any time, from a channel a meeting can be started. Figure 13-1 shows the channel option to “Meet now” at the camera icon shown in the top-right side of the window.

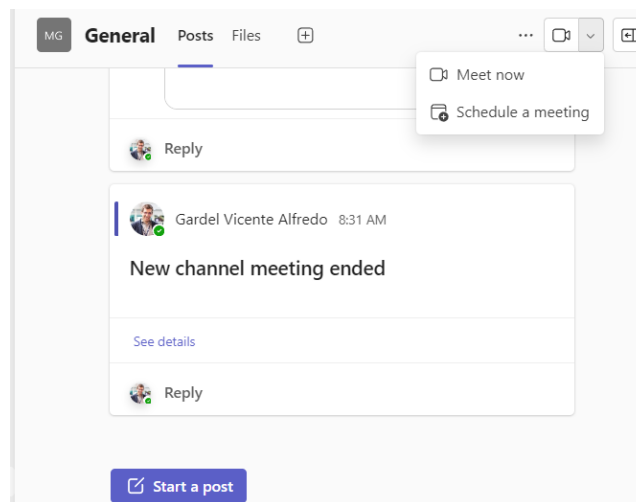


Figure 13-1. Meet now to invite people to join the meeting

By default, all the members within that channel are in the meeting. Once started the meeting, the system offers different options to invite more people to the online meeting. In Figure 13-2 is shown the following 3 options: copy meeting link (to share by any means, as instant messaging applications for example whatsapp or messenger), directly add new participants to the call, or share the meeting information by email.

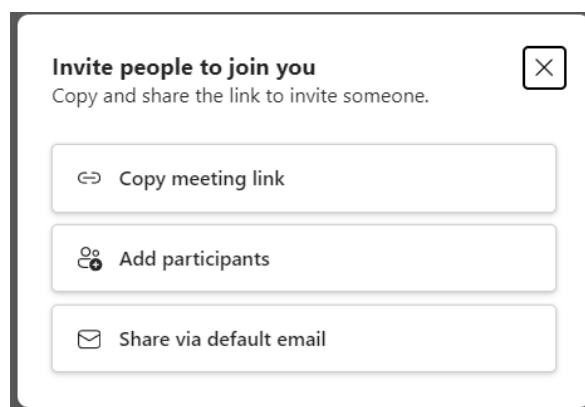


Figure 13-2. Options to invite people to join the meeting



13.3 NEW MEETING FROM THE CALENDAR TOOL

The calendar tool is crucial for properly preparing meetings and virtual classes in Microsoft Teams. This guide will review the different elements available. To access the calendar, click on the calendar icon located in the left sidebar of the application. The window calendar will show the contents similar to the ones shown in fig. 13-3.

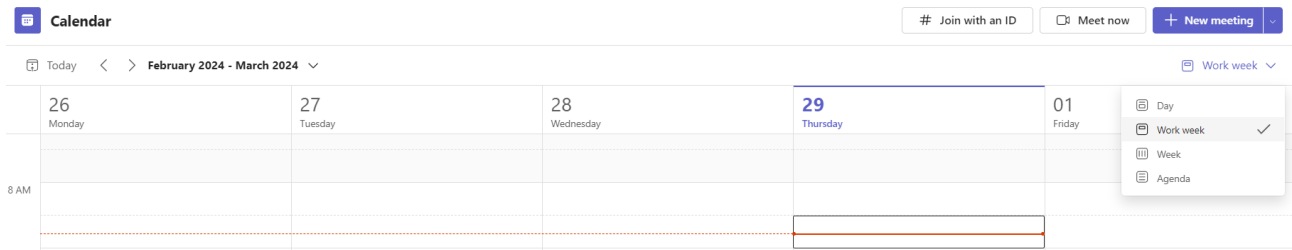


Figure 13-3. Default calendar work week view

By default, the workweek view is displayed, from Monday to Friday, with a highlighted area indicating working hours, e.g., from 8 AM to 5 PM. Each calendar cell represents a 30-minute interval for each day. To schedule a meeting, you can click on any time slot.

There are three calendar views: day, workweek (Monday - Friday), and full week, which displays all days of the week. On the left side of the calendar, there is an option to jump directly to the current day to view scheduled events. A red line indicates the current time.

At the top, there are two buttons. The "Meet Now" button allows entering a meeting room immediately; clicking on this button, you must enter a meeting title and can also obtain a meeting link to share with others. Next, there is the "Start Meeting" button.

To schedule a meeting at a specific time, you can simply click on the desired time slot. This will open the scheduling sheet with the meeting details.

Other option is the button on the right side that allows scheduling a meeting. Clicking on this button will open a page to enter the meeting's details. There are different templates as shown below (fig. 13-4).

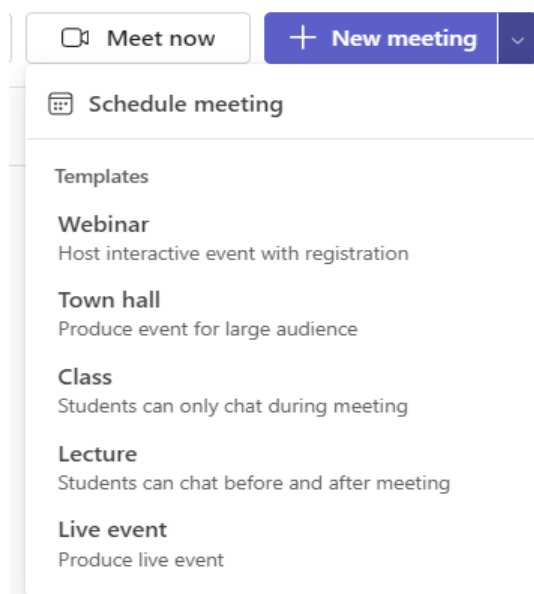


Figure 13-4. Managing options for a course channel



In the example given in Figure 13-5 below, the Lecture template was used.

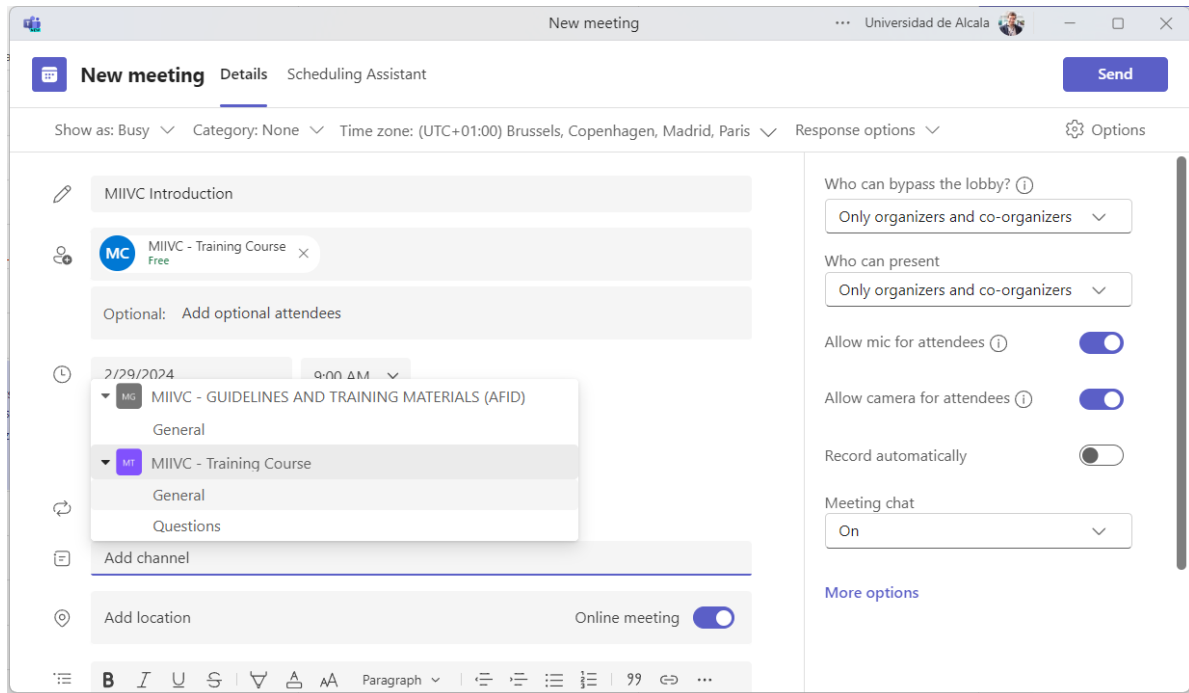


Figure 13-5. Scheduling an online Lecture for MIIVC course on the calendar

It is required to add a meeting title, invite attendees, add a channel from a team, and select the day and time of the meeting. Finally, it can be set up a recurrent meeting along time (fig. 13-6).

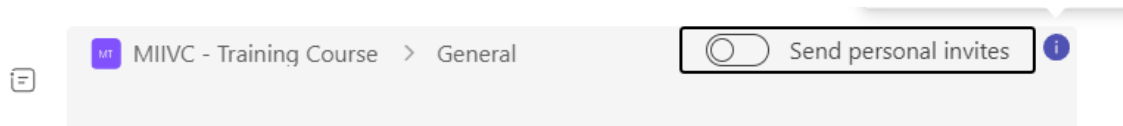


Figure 13-6. Online Lecture for MIIVC course “General” channel - email invitation option

The lecture for VIC course is updated on each member of the class channel and also it might be sent as personal email invitation with a link to join the meeting. Then in the Homepage section of the course, the scheduled lecture is updated as shown in Figure 13-7.

Scheduled course meetings

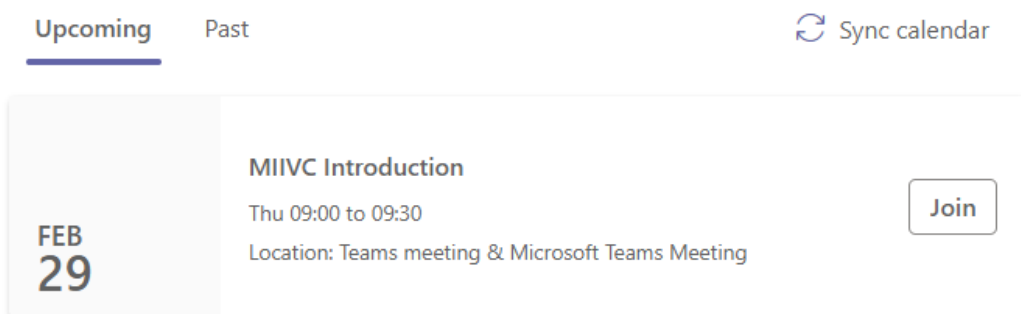


Figure 13-7. Class Homepage calendar update



Prior to finalizing the meeting, organizers have the opportunity to customize participant permissions, including who can bypass the lobby, who can present, and whether attendees can activate their cameras and microphones. This granular control ensures that the meeting environment is conducive to learning and participation, tailored to the educator's pedagogical strategy.

Once the meeting is established, invitations are automatically disseminated to participants' calendars. The integration with the Teams and Outlook calendars provides a coherent overview of upcoming sessions, fostering a structured and predictable routine for students and educators alike.

13.4 SCHEDULE AN ONLINE MEETING FOR A COURSE CHANNEL

In this section, we will show how to schedule an online meeting for the Questions channel of our VIC training course. This option situates the meeting within the directly educational context of a course or subject, making it easily accessible for students and enhancing the integration of meeting content with ongoing discussions and resources. Then, we will go to the Posts of that channel, and clicking on the icon shown in Figure 13-8.

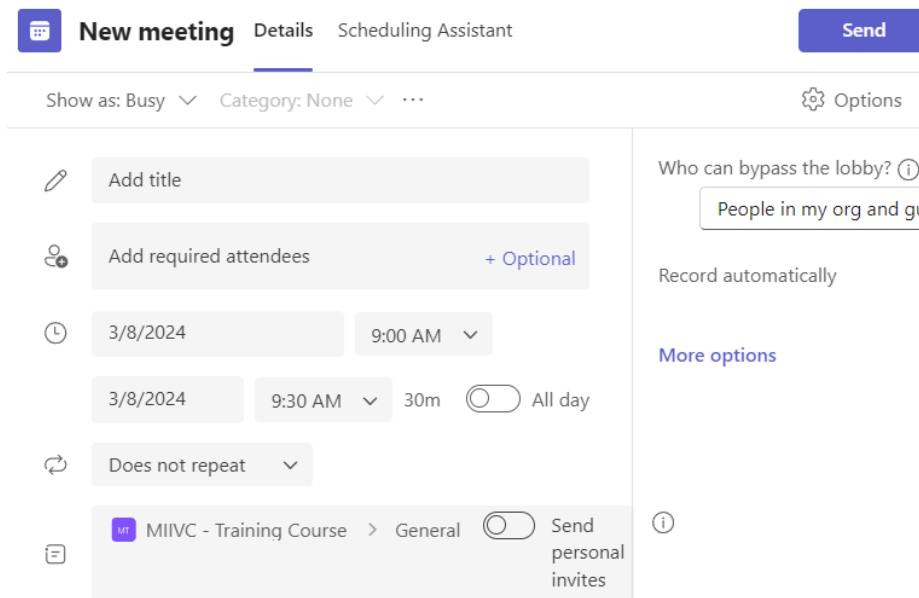


Figure 13-8. Question channel – posting a scheduled online meeting

Then, all the participants assigned to the Questions channel will have on their own calendars the scheduled meeting besides a new activity feed related to it. The student can join the meeting from the calendar or the channel posts. The difference with the option of scheduling a meeting directly from the calendar is that the channel selection box is not filled in that case (Figure 13-9).

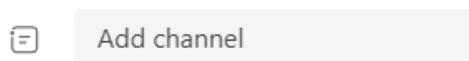


Figure 13-9. Channel selection for the meeting

It is recommended to make repetitive scheduled meetings for a better organization of the user's time ensuring a seamless and productive educational experience.

The platform extends a sophisticated suite of functionalities designed to facilitate the orchestration of repetitive or recurring online meetings. In the “New meeting” window the desired timing for recurring meetings makes use of the option labeled “Repeat”.



Within the "Repeat" submenu, the organizer has various recurrence patterns, including daily, weekly, monthly, or custom intervals. This flexibility allows for the precise alignment of meetings with the academic schedule, ensuring regular and uninterrupted sessions.

Further refinements can be made in terms of end dates for the recurrence, exclusions for specific dates (such as holidays or institutional breaks), and the ability to adjust the time for individual instances of the recurring meeting, catering to the dynamic nature of academic timetables.

13.5 MASTERING ONLINE MEETINGS

In this subsection, the different options that Teams offers for online meetings are presented.

Let us quickly identify several elements within the meeting room shown in the next figure, to the left-hand side.

In the top left, we can see the elapsed time of the meeting. The options bar is located at the top right corner.

In the central part, we can view the video feeds from the students' cameras, assuming they are activated. Adjacent to each name, three dots are invariably present, offering three potential actions. These include muting a participant, pinning the participant's video feed, and the option to foreground a video feed for all meeting attendees to allow for an expanded display of this individual on the screen with a central focus.

The meeting host's video is by default positioned in the lower right corner of the meeting room.

Additionally, we have the "Participants" option. Clicking on this option, allows us to view the list of meeting participants.

Furthermore, the organizer can access the meeting's security settings to manage participants' permissions within the meeting and also download the attendee list.

Finally, there is the option to remove someone from the meeting.

The chat window (if enabled) allows each participant to type messages in this space, along with other features such as attaching files, sending emojis, and more, all found on the options bar at the bottom. There is a button for sending messages to other participants. Additionally, there is a button for reactions, providing access to actions like raising a hand or sending a type of reaction, such as a like, heart, applause, or laughter, enabling participants to interact without interrupt the meeting.

The only option that remains active until re-clicked is raising the hand. To lower the hand, one must access this option again and click on "Lower hand".

Another button introduces the option of small group rooms, which we will explore in greater detail below.

We have also the possibility to set the camera on/off. Similarly, the "Speak" button sets the microphone on/off, and further right, the option to share a window or the entire screen, with various possibilities.

Another relevant option is the possibility to record the online meeting session (fig. 13-10).

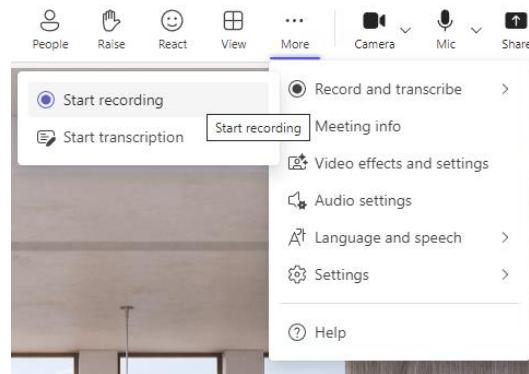


Figure 13-10. Recording an online meeting session

The video recording is posted in the channel where the meeting was executed. Additionally, within the files attached to that channel a folder with “Recordings” is created with all the recorded sessions.

Finally, there is the option to leave the meeting or end the meeting for everyone. This end option only appears if we click on the button furthest to the right. The distinction between the two is that the “Leave” option allows me to exit the meeting without closing the room, whereas the “End meeting” option (only available for organizers role) ejects all participants from the meeting immediately and closes the room (fig. 13-11).

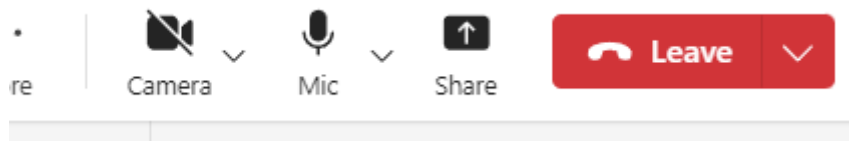


Figure 13-11. Leave meeting button

If the organizer “Leave” the meeting, the meeting will continue for the remaining participants. However, certain administrative controls and features may be affected. For example, the ability to admit new participants or make changes to the meeting settings may be restricted to the organizer. Additionally, if the organizer was sharing content or had certain presenter privileges, those may be affected as well. It is advisable for the organizer to appoint another participant as a co-organizer before leaving the meeting to ensure continuity and manageability.

After the meeting, educators can utilize the meeting chat included in the channel to continue the discussion, share meeting recordings for those who could not attend, and distribute supplementary materials, ensuring that the educational continuum extends beyond the live session.

13.5.1.1 Good practices for virtual classes participation

Let us present briefly several recommendations in the user participation in online classes to ensure success in virtual meetings.

- Muting the microphone upon entry is crucial to avoid interrupting ongoing discussions with background noise.
- Utilizing the chat feature allows for non-disruptive communication, enabling moderators to address comments appropriately before granting the floor.
- Raising a hand digitally signals a desire to contribute, awaiting the moderator’s permission to speak. After speaking, lowering the hand is important to avoid confusion.



- Adhering to the scheduled time of the meeting respects all participants' time.
- Keeping the video on is recommended for a more engaging interaction, with the option of using a virtual background to maintain focus on the speaker.
- Preparing physically as for an in-person meeting enhances the professional atmosphere.
- Finally, ensuring a stable internet connection is paramount to avoid disruptions.

These essential tips can significantly improve the virtual meeting experience.

13.6 SHARING SCREEN AND CONTENTS IN A MEETING

It is of particular interest for the online classes and lectures the capability to share screen and contents during a meeting, a feature that significantly enhances the educational experience by allowing professors to present lecture materials, demonstrate applications, and engage in interactive discussions.

To commence screen sharing, participants within a Microsoft Teams meeting select the “Share” icon located in the meeting controls. This action unveils a variety of sharing options, enabling the presenter to choose the most relevant content for their educational objectives (fig. 13-12).

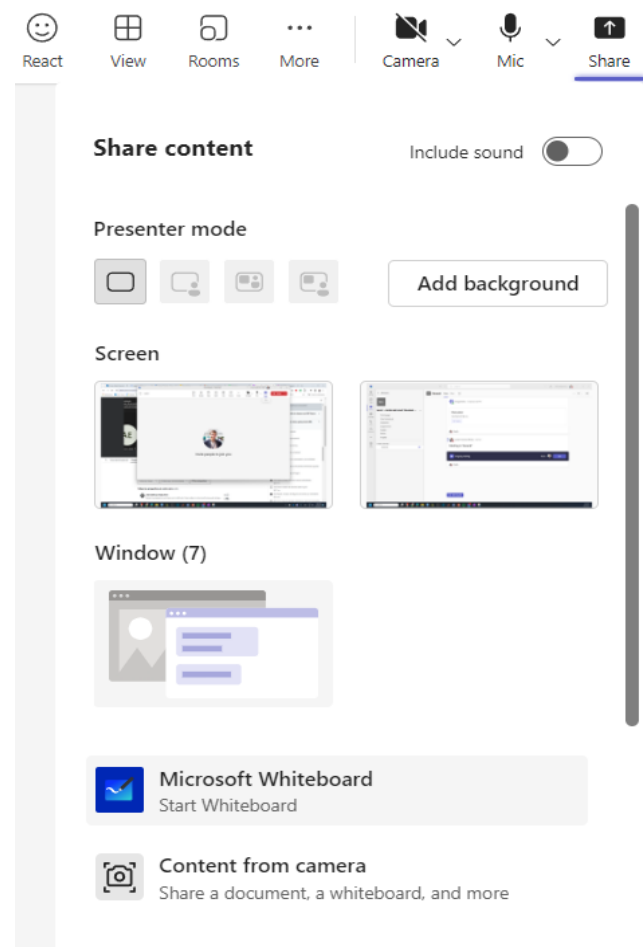


Figure 13-12. Sharing options within a meeting

Allowed users (role in the meeting) have the flexibility to share their entire desktop or a specific application window. Sharing the entire desktop is beneficial for demonstrations that require switching



between applications, whereas sharing a single window offers a focused view, minimizing distractions and maintaining privacy for other open applications.

Microsoft Teams for Education integrates seamlessly with PowerPoint, offering a dedicated option for sharing PowerPoint presentations. This feature optimizes the presentation for viewing and allows presenters to navigate slides within the Teams environment. Additionally, it supports live annotations and highlights, enriching the presentation with interactive elements.

The digital whiteboard feature fosters collaborative interaction, enabling educators and students to sketch diagrams, jot down notes, and brainstorm ideas in real time. This virtual canvas is a dynamic tool for visual explanation and collaborative exercises, supporting a wide range of instructional activities (fig. 13-13).

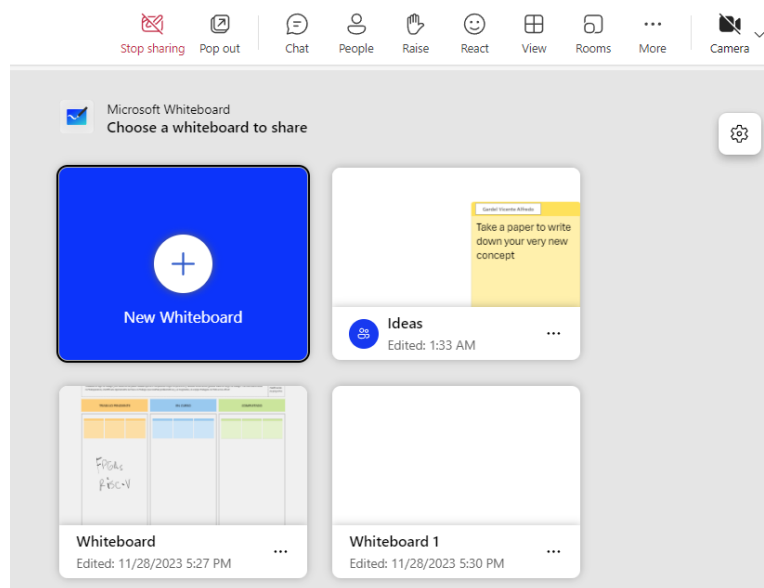


Figure 13-13. Digital whiteboard within a meeting

Another facility to share physical documents or demonstrate on paper, the content camera option allows for the sharing of a live feed from a secondary camera pointed at a desk or whiteboard. This feature bridges the gap between physical and digital instructional materials, offering a hybrid teaching modality.

The professor can grant control of the shared screen to students, facilitating hands-on guidance and interactive learning. Conversely, students can request control to actively participate in demonstrations or exercises, fostering an engaging and participatory learning environment.

A more detailed explanation and use of the above sharing options are out of the scope of this documentation.

13.7 BREAKOUT ROOMS FOR SMALL GROUP DISCUSSIONS

Microsoft Teams for Education offers a plethora of engagement tools specifically designed for the educational context, such as breakout rooms for small group discussions. It allows meeting organizers to divide participants into smaller groups for focused discussions, workshops, or brainstorming sessions. This feature is particularly useful for large meetings, educational classes, or training sessions where participants benefit from discussing topics in smaller groups before reconvening in the main meeting.



Once in a meeting, the option “Breakout Rooms” can be selected from the top window bar shown in Figure 13-14.

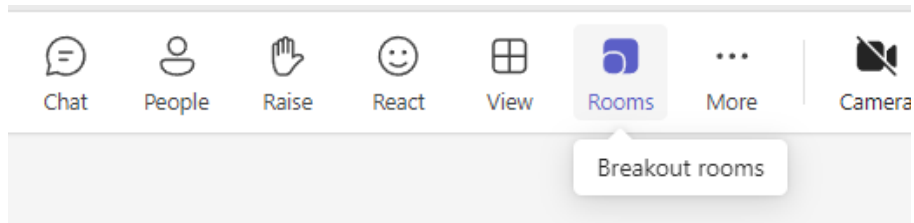


Figure 13-14. Breakout rooms selection

The professor/organizer can divide the attendees in a certain number of breakout rooms. The organizer can manually assign the participants to specific rooms or let Teams to automatically distribute attendees. Besides the organizer(s) of the meeting can choose to assign presenters or moderators within breakout rooms to have the authority to manage discussions, share content, and facilitate the session effectively in their assigned breakout room.

Rooms can be set to close automatically after a specified duration, helping to keep discussions on track and ensuring groups return to the main session as planned. The option to set time limits can help ensure that discussions within breakout rooms stay on track and that participants have enough time to engage in meaningful conversations. Setting predefined time limits for each breakout session can help manage the overall flow of the meeting. Additional controls about participants moving from/into plenary and breakout rooms can be chosen. The setting windows corresponding to these options are shown in Figure 13-15.

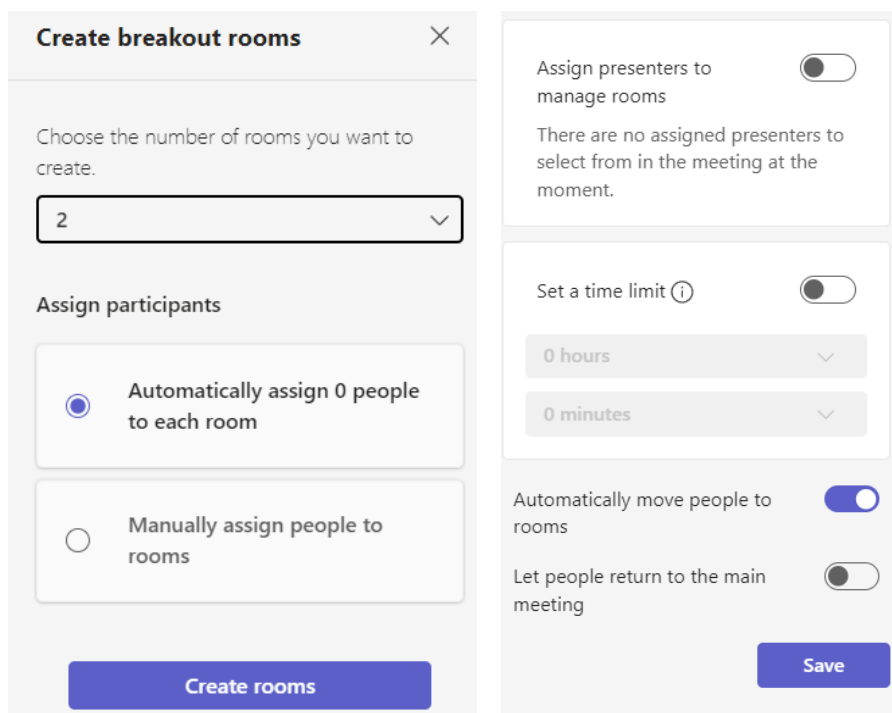


Figure 13-15. Options to assign participants in several rooms and their management

Organizers can shuffle participants between rooms as needed during the session, accommodating dynamic discussion needs and encouraging diverse interactions (fig. 13-16).

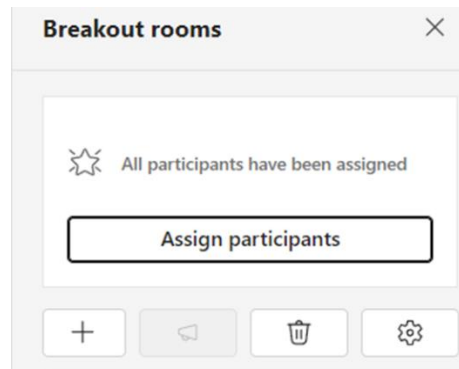


Figure 13-16. Assign participant for breakout rooms

Moderators and meeting organizers can join any breakout room to monitor discussions, provide guidance, or assist with technical issues, ensuring smooth facilitation across all groups.

Each breakout room can independently share documents, whiteboards, presentations, record their session and take notes, making it easy to share insights and outcomes with the larger group or refer back to discussions.

13.7.1.1 Breakout rooms: Use Case

To divide the meeting in several “breakout rooms” provide a large flexibility that supports various pedagogical approaches and meeting formats. For example, In the General channel an online session starts with an introductory overview of one case study topic, setting clear learning objectives and expectations for participants. Next, a comprehensive presentation of the case study is done in the main meeting room, employing for example presentations, slides, or live discussions, steered by the professor. Participants are then segmented into smaller breakout rooms, each one tasked with analyzing a specific aspect of the case study. Within these breakout rooms, collaboration thrives as participants dissect their assigned segments, engaging in lively discussions to unearth key findings, address challenges, and craft actionable recommendations. To culminate, each group appoints a spokesperson to synthesize their insights before regrouping in the main meeting room for a collective presentation of their analyses and recommendations. This leads to a facilitated discussion where diverse perspectives are explored, alternative solutions debated, and constructive feedback exchanged among peers. Finally, the session concludes with a reflective discourse on the case study analysis process and encapsulating the lessons learned.



14. DOCUMENTS, COLLABORATION AND OTHER 3RD PARTY TOOLS

Microsoft Teams offers a comprehensive suite of features for document collaboration and integration with third-party tools, enhancing classwork and productivity within the online courses. With built-in document sharing and editing capabilities, users can seamlessly collaborate on files in real-time, whether it is creating, editing, or reviewing documents. Teams integrates seamlessly with OneDrive and SharePoint, providing robust file storage options that enable users to store, access, and share files securely. A comprehensive use of OneDrive and Sharepoint repositories are out of the scope of this documentation.

The integration of the whiteboard inside Teams allows users to brainstorm ideas, draw diagrams, and visualize concepts collaboratively, fostering creativity and innovation. Additionally, Teams supports integration with popular third-party tools such as Kahoot, further enriching the collaboration experience.

Next sections describe the use of the integrated whiteboard tool and inclusion of other 3rd party tools.

14.1 USING THE WHITEBOARD

In Microsoft Teams for Education, the inclusion of a whiteboard tab within a channel provides educators and students with a versatile and interactive tool for collaboration and learning. The whiteboard tab allows users to create, share, and collaborate on digital whiteboards directly within the Teams interface.

First step is add a new tab within a channel, select the Whiteboard app (fig. 14-1) and name the new whiteboard collaboration space, for example “Ideas”.

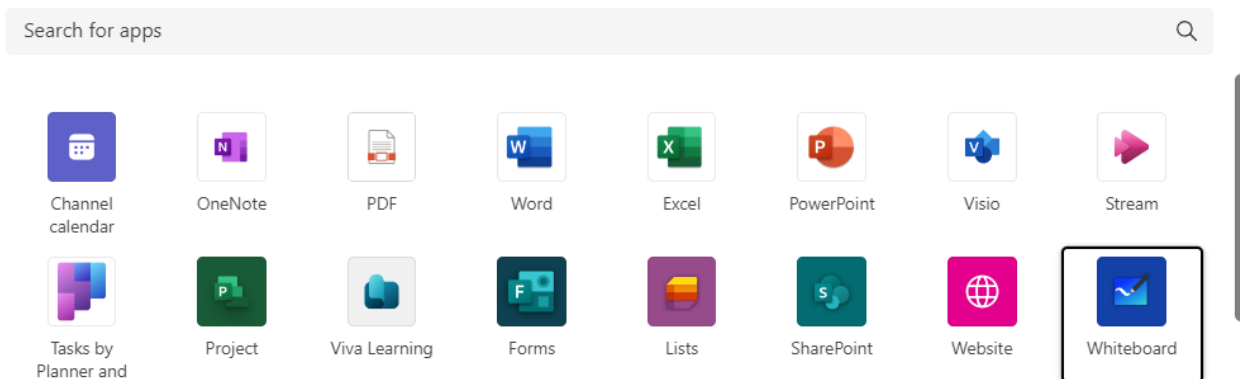


Figure 14-1. Add a new tab with the Whiteboard app

Then, a new tab “Ideas” appears (Figure 14-2) and can be used to facilitate interactive collaboration sessions where students can brainstorm their ideas, solve problems, and work together on group projects. The digital whiteboard serves as a virtual canvas where users can draw, write, insert images, and annotate content in real-time, promoting creativity and engagement.

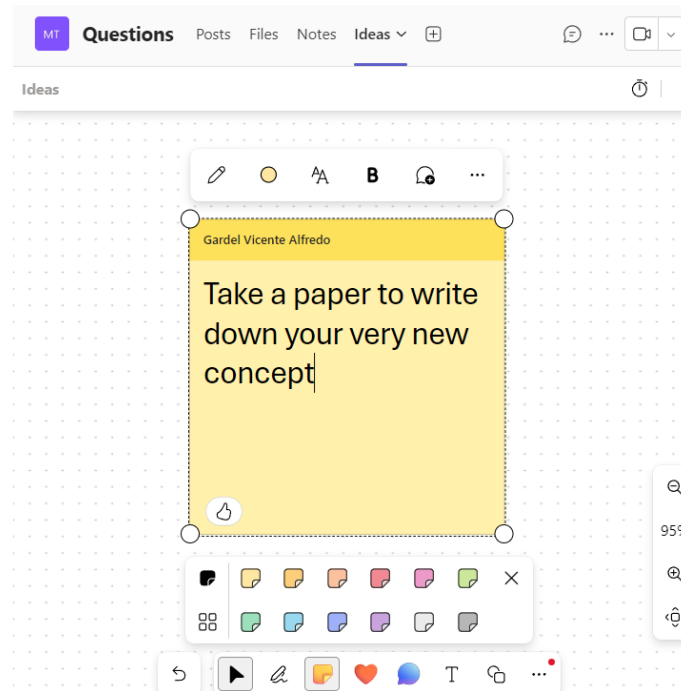


Figure 14-2. Collaborating in the new whiteboard “Ideas”

14.2 PDF AND ONENOTE FILE VIEWERS

A PDF document can be uploaded in a particular section/page within the Class Notebook, where the document is accessible for students to view and download.

Another option to share this information quickly is to add the PDF file as a new tab to a specific channel related to it. Then similarly, to the whiteboard app selection, in this case the user selects the PDF viewer app (Figure 14-3).

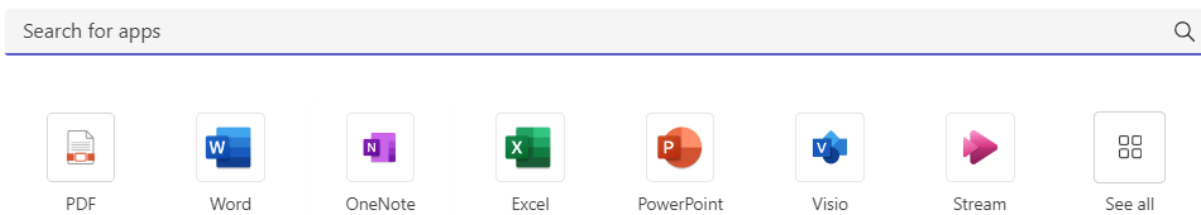


Figure 14-3. Additional PDF viewer app tab

After naming the new tab and selecting the file (several ways as shown in Figure 14-4), it is uploaded to the channel and upon saving, the file becomes available for students to read or use, with features such as zoom, page navigation, and search simply clicking on the tab.

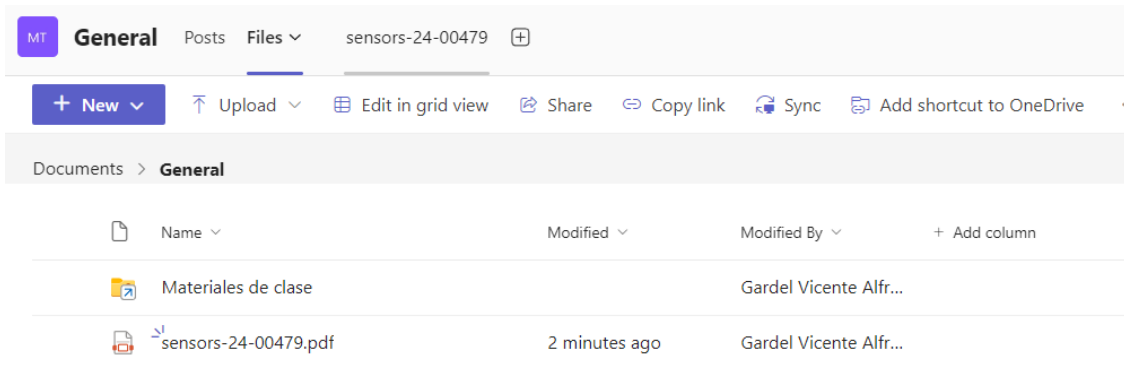


Figure 14-4. Selection of the PDF file to view in the app tab

Similarly, documentation and information can be included as a new page tab sharing a OneNote notebook (Figure 14-5).

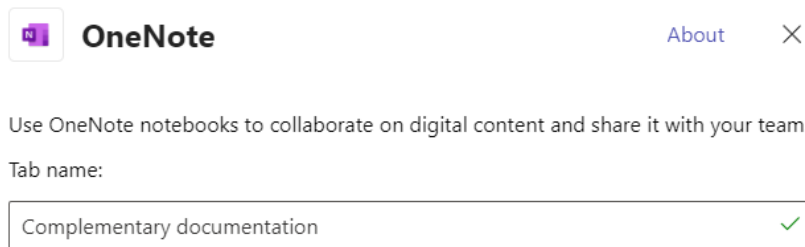


Figure 14-5. Additional OneNote tab

OneNote is selected to create a new tab dedicated to a specific topic or study material for students. For instance, it could be utilized to provide complementary or support class materials. Once the tab is set up, users can begin working within the shared OneNote page, where they have various tools and features at their disposal, such as inserting content, images, videos, text, tables, files, links, audio recordings, emojis, and drawings (Figure 14-6).

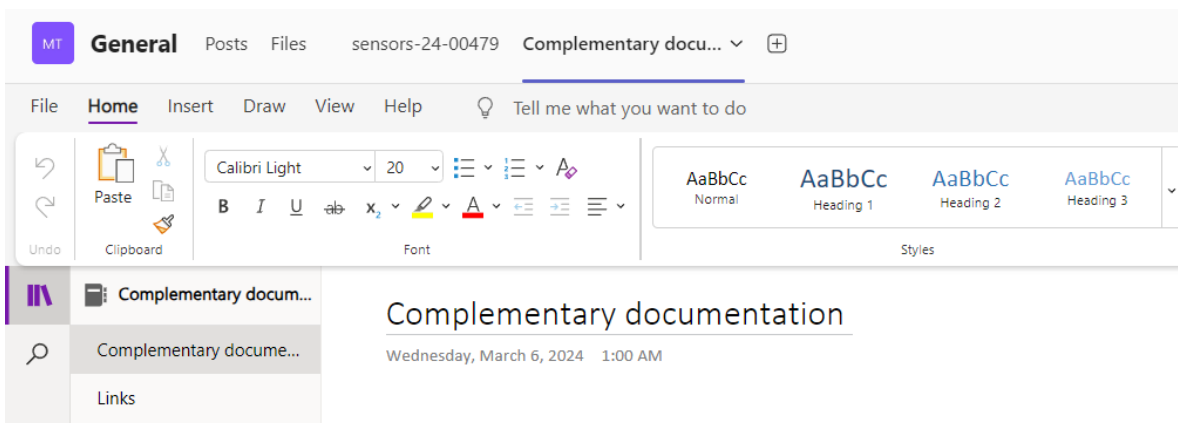


Figure 14-6. OneNote tab linked to a “Complementary documentation” notebook

14.3 3RD PARTY TOOLS INTEGRATION

Other third-party tools can be integrated, but requires advanced permissions on the VIC MS Teams.



For example, we will consider how to add Kahoot game inside a channel tab. Integration with Kahoot enables educators to create interactive quizzes, surveys, and games directly within Teams, engaging students and promoting active learning. To be ready to use Kahoot, first the instructor needs to create or have linked a Kahoot account with the same email registered for the MS Teams. Let us consider that the instructor is enrolled on the Kahoot platform and has created quizzes to be used within Microsoft Teams as an assignment for the online course students. To create the Kahoot tab in a channel (for example, General channel), teacher must click on the + sign on the tabs and search for the 3rd app tool to use, in this case, Kahoot (Figure 14-7 and Figure 14-8).

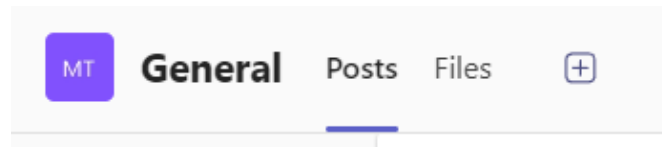


Figure 14-7. Including a new tab on a course channel

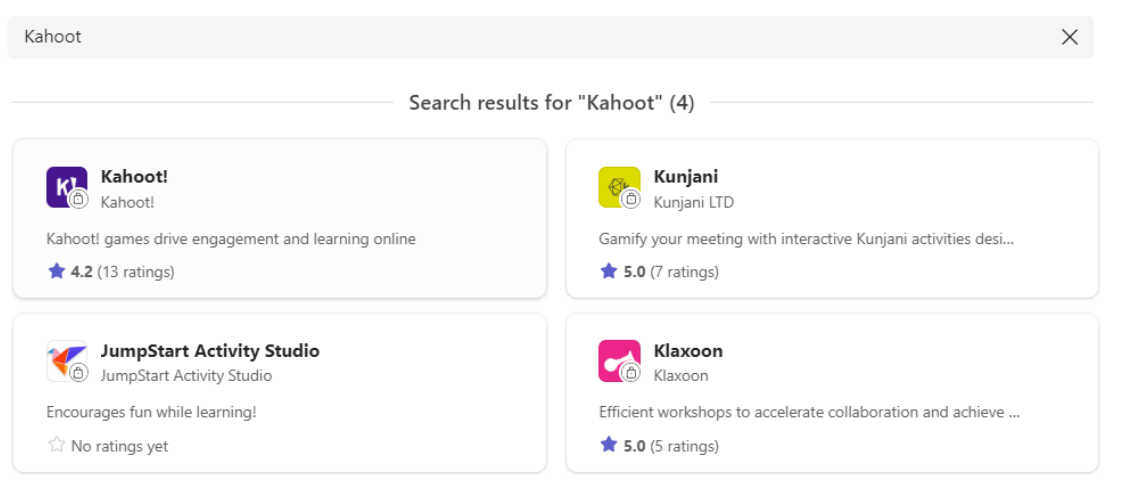


Figure 14-8. Additional Kahoot tab

From there, we click on Kahoot! application, and log in with our institutional email account registered on the Kahoot platform. Once logged in, we add the Kahoot quiz and click “Save”. Now, a new tab labeled “Kahoot” should appear, allowing teachers to evaluate and view all the quizzes they have created.

Detailed integration of 3rd party tools are out of the scope of this documentation.



15. CLONING A COURSE

In this section, we present the steps about how to clone a course. In the creation of a new course the system gives the option to create it from another team as shown in Figure 15-1.

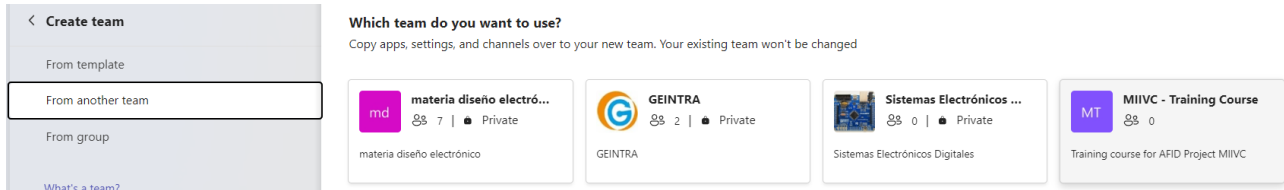


Figure 15-1. Cloning a course from a previous one

Once the previous course is selected as the template we can modify the name, description and choose to include the tabs, team settings, chats, channels and members from the original course (Figure 15-2).

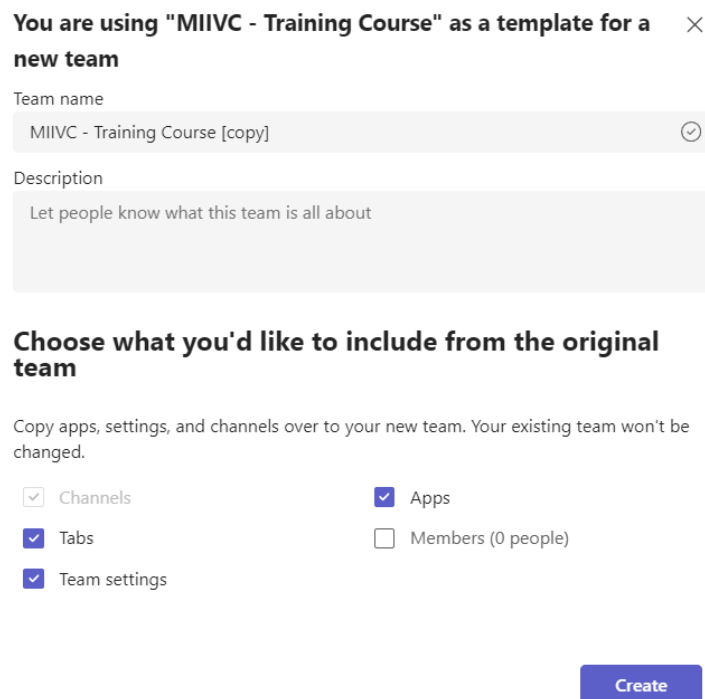


Figure 15-2. Select to clone the structure, contents and members for the new course

This task is usually required to start a new edition of the same course, assigning different students but reusing the same contents, similar classes schedule, etc.



16. ACRONYMS USED

Table 16-1. List of used acronyms

Acronym	Description
VIC	Virtual Inclusive Campus
AFID	Providing of Academic Freedom and Inclusion through Digitalization
MS	Microsoft
TTY	Teletype writer

17. REFERENCES

Mainly the materials and information offered by Microsoft Teams support from their interface have been used as reference of the contents provided in this document.