

Master : Ingénierie Pédagogique et Didactique des Sciences -IPDS

Module : 21st CENTURY EDUCATION

Année universitaire 2025/2026

Coordonnateur du module : Pr. Youssef El Ouidani

1. Objectifs visés

A l'issue de ce module, l'apprenant (e) sera en mesure de :

- Develop students' understanding of the major characteristics and challenges of 21st-century education.
- Examine the impact of technological and social change on learners, motivation, engagement and educational practices.
- Distinguish teacher-centered and student-centered approaches and develop an understanding of learner autonomy, active learning, inclusion and differentiation.
- Understand competency-based education and the relationship between knowledge, skills and competences.
- Develop and apply key 21st-century skills, including critical thinking, creativity, communication, collaboration and problem solving.
- Explore contemporary approaches to assessment, feedback and evaluation, including authentic, formative, performance-based, peer and self-assessment.
- Critically examine ICT and AI in education, including opportunities, risks, digital citizenship, privacy, academic integrity and ethical issues.
- Develop students' ability to analyze educational problems and propose practical, inclusive and ethically responsible solutions.
- Encourage autonomy, creativity, collaboration, self-expression, critical reflection and professional communication in English.
- Enable students to connect theoretical concepts with classroom practice through projects, case studies, workshops and educational design tasks.

2. Public cible

Etudiants de Master IPDS

3. Stratégie Pédagogique

Cours interactifs assurés par :

- Student-centered and active pedagogy, with the teacher acting as facilitator as well as providing targeted conceptual input.
- Each session is organized into two complementary parts: conceptual exploration and practical/application work.
- Short lectures and mini-presentations are followed by discussions, reading activities, case studies, workshops or group tasks.
- Collaborative learning through group projects, peer teaching, jigsaw activities and student-led seminars.
- Use of current educational issues, educational technologies and AI as objects of critical analysis and responsible practice.
- English is the principal language of instruction and classroom communication.
- Continuous reflection through weekly reflective reports and practical assignments.

4. Modalités d'Evaluation

- Examen de fin de semestre : 50%
- Contrôles continus : 50% (assiduité, travaux à rendre, tests, mini-projets...)

5. Plan Du Cours

Semaine N	Séance N	Contenus
Semaine 1 : Introduction to 21st Century Education	Séance 1	Course orientation; expectations and ways of working; technological and social transformations; characteristics of 21st-century learners; motivation and engagement.
	Séance 2	Needs analysis and English-proficiency diagnostic; introductory concept matching, reading comprehension and discussion on the ideal 21st-century graduate.
Semaine 2 : Understanding 21st Century Education	Séance 3	Changing demands on education; flexibility, personalization, lifelong learning; technology as a driver and enabler; future-ready skills.
	Séance 4	Reading/comprehension work based on a recent educational text; vocabulary development; discussion and application to educational contexts.
Semaine 3 : Student- Centered Learning	Séance 5	Teacher-centered vs student-centered education; learner autonomy and agency; role of the teacher and learner.
	Séance 6	Comparison activities and classroom scenarios; redesigning teacher-centered practices into student-centered learning experiences.
Semaine 4 : Active, Inclusive and Differentiated Learning	Séance 7	Active learning strategies; inclusive pedagogy; differentiated instruction; responding to learner diversity and needs.
	Séance 8	Case-study analysis and practical design task: adapting a learning activity for learners with different levels, needs and participation patterns.
Semaine 5 : Competency- Based Education	Séance 9	Knowledge, skills and competences; principles of competency-based education; learning outcomes and real-world application.
	Séance 10	Mini-presentation followed by practical group work: designing a competency-oriented lesson/activity with clear outcomes and evidence of learning.
Semaine 6 : 21st-Century Skills and Lifelong Learning		Critical thinking, creativity, communication, collaboration, problem solving and lifelong learning.
	Séance 12	Skills-development workshop: analyzing classroom tasks and redesigning them to develop and assess selected 21st-century competencies.
Semaine 7 : Global Citizenship, Culture and Inclusion	Séance 13	Global citizenship; cultural awareness; human rights; diversity and inclusion; responsibilities of learners in an interconnected world.
	Séance 14	Case studies and group discussion on global/local educational issues; proposing classroom practices promoting intercultural awareness, inclusion and responsible citizenship.
Semaine 8 : Education,	Séance 15	Knowledge economy and human capital; future jobs and future skills; employability; professional development and soft skills.

Knowledge Economy and Employability	Séance 16	Skills-mapping activity: identifying graduate competencies and designing learning tasks that develop communication, leadership, teamwork, flexibility, organization, negotiation and problem solving.
Semaine 9 : Innovative Pedagogies and Curriculum Design	Séance 17	New approaches to 21st-century education; project-based, problem-based, inquiry-based and flipped learning; innovative curriculum and pedagogical practices.
	Séance 18	Group curriculum/lesson-design workshop; developing a practical learning sequence for a scientific subject using an innovative pedagogy.
Semaine 10 : Assessment, Feedback and Evaluation	Séance 19	Self-, peer-, digital, portfolio, alternative, authentic and performance-based assessment; formative/summative assessment; assessment of/for/as learning; rubrics, feedback and feedforward.
	Séance 20	Jigsaw peer-teaching activity on assessment approaches; final Assessment Innovation Challenge: groups design a new assessment method and present it with a rubric.
Semaine 11 : Technology, AI and Digital Learning	Séance 21	ICT in education; AI in education; social media and learner identity; digital citizenship; privacy, academic integrity, equity and ethical issues.
	Séance 22	Online asynchronous work: AI-vs-human text activity; B2 reading on generative AI; opportunities/risks/recommendations; integrated AI and digital-citizenship case study.
Semaine 12 : Globalization and the Future of Education	Séance 23	Internationalization and globalization in education and research; globalization through IT; future trends; future schools and universities; education in 2040.
	Séance 24	Integrative group project/presentation: envisioning a future educational institution or learning environment and justifying its curriculum, pedagogy, assessment, technology and competencies.
Examen fin de module		

6. BIBLIOGRAPHIE SELECTIVE

1. Beck, C., & Kosnik, C. (2021). *Classroom Teaching in the 21st Century: Directions, Principles and Strategies*. McGraw-Hill Education.
2. OECD. (2020). *What Students Learn Matters: Towards a 21st Century Curriculum*. OECD Publishing.