



澳 門 科 技 大 學

**MACAU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**EDUCATIONAL DEVELOPMENT CENTRE**

**CERTIFICATE IN TEACHING AND LEARNING IN HIGHER EDUCATION**

## **INTRODUCTION**

The Educational Development Centre runs a 20-hour Certificate course in Teaching and Learning in Higher Education (HE), for M.U.S.T. teachers.

Learning and teaching competencies, skills and knowledge are at the forefront of many developments in HE. Macau University of Science and Technology is concerned to ensure the highest standards of teaching and learning in the University, providing training for teachers in HE. There is a need for both new, inexperienced and more experienced teachers in HE to be prepared for, and supported in their, teaching, to employ more effective, and a much wider range of, teaching strategies than currently operates, and to promote much more active learning in students. Without such support and development, initial teachers in HE will tend to rely on the experiences that they had as students themselves both at school and at university – and this practice risks recycling inefficient and ineffective methods for teaching and learning.

The Certificate course in Teaching and Learning in HE comprises three main elements:

1. Taught sessions
2. Online materials
3. Self-evaluation

This course is focused on teaching and learning both inside and outside classroom sessions, and therefore it includes blended learning and other forms of learning.

## PARTICIPANTS

This is a **compulsory** course for those M.U.S.T teachers with only up to two years of full time teaching experience in higher education. It is optional for other teachers, academics, teaching assistants and those teaching and working in M.U.S.T., and inexperienced teachers are strongly encouraged to attend these important sessions.

## RATIONALE

Innovations in instructional methodologies and technologies combine with increasing knowledge of, and research in, how students learn, how the brain learns, and how learning can be promoted and maximized. Many developments in effective learning concern several important features:

1. Promoting effective learning inside and outside classrooms, and combining these.
2. Developments in collaborative, active, interactive, engaged, student-centred, deep learning and teaching.
3. The need to develop higher order thinking and creative approaches to learning and teaching.
4. Assessment *for*, and *as*, learning in addition to assessment *of* learning.
5. Promoting and harnessing student motivation.
6. Blended learning and ICT.

Alongside these run the concern to develop ‘real world’, authentic, relevant and meaningful learning, developments in experiential learning, the calls to professionalize teaching, and to develop creative and critical thinking in students.

The effect of these main drivers of change are to reconceptualize teaching and learning in HE and to develop radical alternatives to the lecture-driven style of teaching and passive student learning. Many university students come from a background of teaching and learning which is characterized by a transmission model: a formal, didactic lecture style in which the teacher talks, the student listens and recites, and in which the students typically operate as passive recipients of pre-digested knowledge from the teacher or the textbook. This is often a less-than-efficient way for promoting student learning, it can be demotivating, and it can reduce several features of higher order thinking that are essential for today’s citizens and employees. However, based on their experiences, students may have expectations that lecturers will only lecture, and this expectation needs to be broken.

The global trend toward outcomes-based education has shifted the focus from inputs to outcomes – what students know, can do and can apply as a consequence of their learning – and these shift the nature of teachers as delivery agents, transmitting knowledge to teachers as facilitators of learning. Another concern is that as the university internationalizes it will attract students from countries where diverse pedagogies are used and whose expectations will be different from Macau’s traditional student cohort.

In conventional, didactic classrooms, the responsibility for the learning largely rests on the shoulders of the lecturer. Recent developments in teaching and learning shift the responsibility for learning to fall squarely on the students. The purpose of teaching is to promote learning, therefore teachers have to plan their sessions around *learning* rather than what they wish to 'input' into students. 'Inputting' (one-way lecturing) does not equate with learning.

It is important for teachers in HE to promote engaged learning and to further active, experiential, authentic, 'hands-on' learning, both individually and collaboratively, i.e. to shift the emphasis from teachers to learners. Teachers have to plan their sessions carefully, and from the learners' viewpoint. Teaching must start with the learners rather than the teachers, and student-centred learning must be encouraged.

The impact of electronic media and software is revolutionizing pedagogy in HE. The culture of the textbook and the 'one size fits all' approach to teaching is being replaced by flexible, adaptive, differentiated teaching and learning, in which Internet based technologies and the affordances of a range of software play a significant role, with students engaged in multiple forms and media of communication with each other and with the teacher. No longer can teachers require students to switch off their cell phones, but, rather, they should seek to utilise them in the classroom sessions and beyond.

Assessments are changing, from the testing of recall of pre-digested knowledge and summative assessment, to formative assessment and the use of feedback for both teachers and students to improve learning. Summative assessment of learning, whilst it clearly has a place, is being complemented by the use of assessment to promote learning – assessment *for* learning and, with assessment and feedback being built into the teaching and learning process, assessment *as* learning. Assessment is moving away from total reliance on the end-of-semester or end-of-course examination and multiple-choice tests to much more authentic, diverse and fruitful assessments.

Teachers must concern themselves with *quality* of learning rather than *quantity* of material addressed in a teaching session. Teachers must move away from thinking that two hours of lecturing, to cover very many points, will ensure two hours of learning.

If we wish to promote learning we must make it engaged and engaging, active, involved, authentic (real-world-related), and participatory. This is not to deny the place of a *short*, well-placed, well-planned, well-delivered lecture; this can be very efficient, but it has to be tempered by attention to alternative forms of teaching and learning. Further, assessment and learning have to be integrated and clearly communicated to students.

This Certificate course addresses developments in teaching and learning in HE, and equips HE teachers and academics to fulfil their commitment to raising the standards of student learning. Given the changes and currents of teaching and learning, new teachers need to be inducted into newer forms of teaching and learning, and experienced teachers need to be updated on developments in teaching and learning, and this course addresses these matters.

## **AIMS OF THE COURSE**

1. To develop effective teaching and effective teachers in HE.
2. To enable teachers to promote highly effective student learning.
3. To foster creative and innovative approaches to HE teaching and learning.
4. To introduce key developments in teaching and learning with electronic media and blended learning.
5. To enable teachers in HE to evaluate and develop their own teaching as reflective practitioners.

## **OBJECTIVES OF THE COURSE**

1. To introduce teachers to key principles of effective teaching, learning and assessment in HE.
2. To enable HE teachers to promote student responsibility for their own learning and student-centred, engaged learning.
3. To enable HE teachers to use active, interactive and collaborative learning and teaching.
4. To enable HE teachers to harness and develop student motivation.
5. To enable HE teachers to use ICT, blended learning and related instructional technologies in promoting effective student learning.
6. To enable HE teachers to use newer forms of assessment to promote learning.
7. To enable HE teachers to deliver effective lectures.
8. To develop self-evaluation in HE teachers, leading to improvements in teaching and learning, enabling participants to become reflective practitioners.

## **INTENDED LEARNING OUTCOMES OF THE COURSE**

### *(a) Acquisition and utilization of knowledge and skills*

By the end of this course, participants should be able to do the following:

1. Understand, apply and evaluate key principles of effective teaching and learning in daily classroom sessions.
2. Understand and evaluate how to motivate students through active, interactive and collaborative learning, and to put this into practice.
3. Provide opportunities for students to take greater responsibility for their learning in and outside classroom sessions and to implement student-centred learning.
4. Develop deep learning and higher order thinking in students.
5. Select, apply, evaluate, and learn from their use of strategies and techniques for active student learning with large groups inside and outside classroom sessions.
6. Plan, implement, evaluate and improve experiential, authentic teaching and learning.
7. Use a range of blended learning and ICT-related strategies, techniques and software for promoting effective student learning.
8. Plan, implement and evaluate interactive, cooperative and collaborative learning activities, both with and without blended learning.

9. Introduce, explain, question, present and summarize effectively in classroom teaching.
10. Plan, implement and evaluate effective classroom discussions.
11. Utilize effective and fit-for-purpose assessment in promoting student learning.
12. Evaluate and improve their teaching and students' learning.

*(b) Develop reflective practice*

By the end of this course, participants should be able to do the following:

1. Understand key features of reflective practice and how to develop it, to become reflective practitioners.
2. Review their own development as teachers and reflective practitioners, and identify future areas for their own development as effective teachers in HE.
3. Adopt an open and enquiring mind to what constitutes effective teaching and learning, to put this into practice, and to learn from such enquiry.
4. Evaluate themselves as teachers, to learn from that self-evaluation, and to improve their teaching as a consequence.

*(c) Personal qualities*

By the end of this course, participants should have:

1. A demonstrable interest in teaching, learning and assessment.
2. An open and enquiring attitude to teaching, learning and assessment and new developments in these fields.
3. A willingness to develop themselves further as teachers and learners.

**DURATION AND TIMING**

The course will run for 10 x 2-hour sessions, typically meeting once a week to ensure continuity.

## **COURSE SESSIONS**

The following is an outline of the course, which may be subject to amendment as the course unfolds, in response to participant needs and emergent directions. These are outline indications, and the course might include, for example, re-visiting items from different perspectives as the course proceeds. The course builds on the introductory sessions provided for all new members of M.U.S.T. staff on foundations of effective teaching and learning.

### ***Session One: Planning an effective teaching session***

- What to include in your session planning
- Planning for learning outcomes
- Harnessing student motivation
- Planning and delivering an effective lecture
- Delivering an effective lecture
- Direct instruction

### ***Session Two: Active, interactive and collaborative learning***

- How to plan, implement and evaluate collaborative learning
- Using collaborative learning with large classes
- How to plan, implement and evaluate active and interactive learning
- Developments in learner-centred, engaged learning

### ***Session Three: Effective tutor and student talk in classrooms***

- Effective questioning, explaining, summarizing
- Effective discussions

### ***Session Four: Planning a typical classroom session: a practical introduction***

- Key elements of planning
- How to structure a teaching session
- Key stages of a classroom session
- Tasks and roles for students and teachers
- Transitions and their management
- Evaluating the session

### ***Session Five: Blended learning and Moodle (1)***

- How to approach blended learning inside and outside classrooms
- Planning, implementing and evaluating courses with blended learning
- Practical issues in blended learning
- Uploading and downloading

***Session Six: Blended learning and Moodle (2)***

- Collaborative learning inside and outside classrooms with blended learning
- Interactive learning and software with blended learning
- Internet-based learning and assessment
- How to plan and implement collaborative learning with blended learning

***Session Seven: Assessing students (1): Planning formative and summative assessments***

- Key issues in formative assessment
- Gap analysis and rich feedback
- Assessment for learning
- Alternatives to multiple choice assessment
- Key elements of assessment

***Session Eight: Assessing students (2): Assessment rubrics and performance assessment***

- What are assessment rubrics, and how to write them
- Holistic and analytic rubrics
- Planning for the assessment of performance
- The M.U.S.T. guidelines on assessment
- Authentic assessment

***Session Nine: Assessing students (3): Reliability and validity in assessment***

- Ensuring reliability and validity in assessments
- Kinds of reliability and validity
- Key challenges in reliability and validity
- Moderation and agreement trials

***Session Ten: Evaluation and Self-evaluation***

- Key issues in evaluation and self-evaluation of your teaching
- What to evaluate in teaching
- How to evaluate one's own teaching
- How to act on self-evaluations
- Using student evaluations of teaching to promote effective teaching and learning

**LANGUAGE MEDIUM OF THE COURSE**

English and/or Chinese.

**CLASS SIZE FOR THE COURSE PARTICIPANTS**

A notional maximum of thirty, in order to permit effective workshop activities to take place.

## **TEACHING AND LEARNING ON THE COURSE**

### *Classroom Sessions*

The classroom sessions put into practice the pedagogical strategies being introduced: active, interactive, collaborative, experiential and blended learning. Classes comprise teacher input, practical classroom activities for each of the techniques in question, workshop-and-feedback/example-and-feedback sessions, together with demonstrations, discussions. The class sessions model the strategies and techniques being introduced on the course. It is essential for the classroom sessions to establish a 'safe' environment, in which honest discussions of teaching and learning can taken place without any negativity attached to any participants.

### *Online activities*

Participants will be encouraged to use online media in the course. Online supplementary materials will be made available and guidance on this will be provided during the course. The course will use Moodle for online materials and support. The Educational Development Centre has produced a large and comprehensive series of Handbooks and guidance materials, in both hard and soft copy versions, and these will be referred to on the course.

### *Additional preparation and follow-up by participants*

As the course will be of a practical nature, and as course participants will have limited time, there will be a limited amount of reading required. This will be provided during the course.

## **ASSESSMENT**

The course is assessed and those participants who attend on a compulsory basis must pass the assessment in order to obtain the award, together with meeting the attendance requirements of the University. The course is open to all staff who wish to participate on a voluntary basis, either to complete the attendance and assessment requirements (and, thereby, to obtain the Certificate in Teaching and Learning in Higher Education) or to attend one or more sessions without completing the assessment requirement (thereby obtaining a Certificate of Participation in the course). The assessment comprises: compiling a focused teaching portfolio (introduced in the course itself) which includes a piece of reflective writing on their learning, development and implications for their present and future teaching practice and pedagogical development. Guidance on this assessment and the criteria for assessment will be provided in the course. Participants who have not met the attendance requirements will not be eligible for assessment.

## **ATTENDANCE**

Participants will be required to attend all sessions. Participants may be excused attendance at the classroom sessions if they are ill (with medical evidence) or if there are other serious circumstances that prevent them from attending the classroom sessions (to the satisfaction of the course tutor). If more than two sessions are missed then participants will render themselves ineligible for assessment. Attendance requirements are the same as those set out in the University's Handbooks on attendance.



## REFERENCES

### ESSENTIAL READINGS

The Educational Development Centre at Macau University of Science and Technology has published several short teaching guides and handbooks, and these will be essential reading.

### KEY TEXTS

- Biggs, J. and Tang, C. (2011) *Teaching for Quality Learning at University: What the Student Does* (4<sup>th</sup> edition). Maidenhead, UK: Open University Press. ISBN: 978-0335242757.
- Bloxham, S. and Boyd, P. (2007) *Developing Assessment in Higher Education: A Practical Guide*. Maidenhead, UK: Open University Press. ISBN: 978-0335221073.
- Butcher, C., Davies, C. and Highton, M. (2006) *Designing Learning: From Module Outline to Effective Teaching*. Abingdon: Routledge. ISBN: 978-0415-380300.
- Exley, K. and Dennick, R. (2009) *Giving a Lecture* (second edition). Abingdon: Routledge. ISBN: 978-0415-471404.
- Fry, H., Ketteridge, S. and Marshall, S. (2008) *A Handbook for Teaching and Learning in HE* (third edition). Abingdon: Routledge. ISBN: 978-0415-43464-5.
- Light, G., Cox, R. and Calkins, S.C. (2009) *Learning and Teaching in Higher Education: The Reflective Professional* (2<sup>nd</sup> edition). London: Sage Publications Inc.. ISBN: 978-1848600089.
- Millis, B. (2012) *Cooperative Learning in Higher Education*. Sterling, VA: Stylus Publishing. ISBN: 978 1 57922 329 8.
- Race, P. (2006) *The Lecturer's Toolkit* (third edition). Abingdon: Routledge. ISBN: 978-0415403825.
- Ramsden, P. (2003) *Learning to Teach in HE* (second edition). Abingdon: Routledge. 978-0415-303453.
- Sambell, K., McDowell, L. and Montgomery, C. (2012) *Assessment for Learning in Higher Education*. Abingdon, UK: Routledge. ISBN: 978-0415586580.
- Sousa, D. (2006) *How the Brain Learns* (third edition). Beverly Hills: Corwin Press. ISBN: 978-1412936613.

### SUPPLEMENTARY REFERENCES

Additionally, the following are cited as useful readings:

- Bender, T. (2012) *Discussion-Based Online Teaching To Enhance Student Learning*. Sterling, VA: Stylus Publishing. ISBN: 978 1 57922 747 0.
- Boud, D. and Falchikov, N. (Eds.) (2007) *Rethinking Assessment in Higher Education: Learning for the Longer Term*. Abingdon, UK: Routledge. ISBN: 978-0415397797.
- Bowen, W. G. (2013). *Higher Education in the Digital Age*. Princeton: Princeton University Press. ISBN: 978-0691159300.
- Brockbank, A. and McGill, I. (2007) *Facilitating Reflective Learning in Higher Education* (2<sup>nd</sup> edition). Maidenhead, UK: Open University Press. ISBN: 978-0335220915.
- Bryan, C. and Clegg, C. (Eds.) (2006) *Innovative Assessment in Higher Education*. Abingdon, UK: Routledge. ISBN: 978-0415356428.
- Campbell, A. and Norton, L. (2007) *Learning, Teaching and Assessing in Higher Education: Developing Reflective Practice*. London: Learning Matters. ISBN: 978-1844451166.
- Caulfield, J. (2012) *How to Design and Teach a Hybrid Course*. Sterling, VA: Stylus Publishing. ISBN: 978 1 57922 423 3.
- Doyle, T. (2008) *Helping Students Learn in a Learner-Centered Environment*. Sterling, VA: Stylus Publishing. ISBN: 978 1 57922 222 2.
- Doyle, T. (2012) *Learner Centered Teaching*. Sterling, VA: Stylus Publishing. ISBN: 978 1 57922 743 2.

- Entwistle, N. (2009) *Teaching for Understanding at University: Deep Approaches and Distinctive Ways of Thinking*. London: Palgrave Macmillan. ISBN: 978-0333962985.
- Garrison, R. and Vaughan, N.D. (2007) *Blended Learning in Higher Education: Framework, Principles, and Guidelines*. Hoboken, NJ: John Wiley and Sons. 978-0787987701.
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- Montgomery, C. (2010) *Understanding the International Student Experience*. London: Palgrave Macmillan. ISBN: 978-1403986191.
- Pacansky-Brock, M. (2012) *Best Practices for Teaching with Emerging Technologies*. Abingdon, UK: Routledge. ISBN: 978-0415899390.
- Rennie, F. and Morrison, T. (2013) *e-Learning and Social Networking Handbook: Resources for Higher Education* (2<sup>nd</sup> edition). Abingdon, UK: Routledge. ISBN: 978-0415503754.
- Reynolds, C. and Patton, J. (2013) *Leveraging the ePortfolio for Integrative Learning*. Sterling, VA: Stylus Publishing. ISBN: 978 1 57922 900 9.
- Ryan, J. (2012) *Cross-Cultural Teaching and Learning for Home and International Students: Internationalisation of Pedagogy and Curriculum in Higher Education*. Abingdon, UK: Routledge. ISBN: 978-0415630139.
- United Kingdom Higher Education Academy (2011) *The UK Professional Standards Framework for Teaching and Supporting Learning in Higher Education*. London: Higher Education Academy.
- Wankel, C. and Kingsley, J. (2009) *Higher Education in Virtual Worlds: Teaching and Learning in Second Life*. Bingley, UK: Emerald Group Publishing Ltd. ISBN: 978-1849506090.
- Wankel, L. A. and Blesinger, P. (2013) *Increasing Student Engagement and Retention Using Multimedia Technologies*. Bingley, UK: Emerald Group Publishing Ltd. ISBN: 978-1781905135.
- Weiner, M. (2013) *Learner-Centered Teaching: Five Key Changes to Practice*. Hoboken, NJ: John Wiley and Sons. ISBN: 978-1118119280.

## ADDITIONAL RESOURCES

- Hativa, N. (2007) *Lecturing for Effective Learning*. Two disc set (DVD): Sterling, VA: Stylus Publishing: ISBN: 978 1 57922 294 9.
- Powell, M. (2007) *Dynamic Presentations* (DVD). Cambridge: Cambridge University Press. ISBN: 9780521150064.
- Communicating across Cultures* (DVD). Cambridge: Cambridge University Press. ISBN: 9780521182027