TM 310: INFORMATION AND COMMUNICATIONS TECHNOLOGY TEACHING METHODS (4 HRS/WK) (NEW)

COURSE DESCRIPTION AND OVERVIEW:

This course focuses on teaching and learning methods in computer and instructional technology (ICT) in education; integrating and implementing general teaching methods and multi disciplinary studies with ICT; examining, evaluating, and developing thinking skills about different books and lessons which are related with ICT, and integration with special teaching methods and strategies.

COURSE OBJECTIVES:

At the end of the course students should be able to:

- Explain, implement, and critically evaluate teaching and learning methods in Computer and Instructional Technology in Education.
- Integrate special teaching and learning methods into real school life.
- Make considered judgements about the impact that ICT is having on student learning in schools through a systematic study of relevant research literature
- Evaluate the rationale for using ICT within a constructivist framework
- Articulate the necessary competencies, skills, knowledge, experience and attitude profile needed for success as an ICT teacher
- Demonstrate their ability to successfully integrate ICT within selected curriculum contexts through preparing lesson plans that take advantage of the key attributes of ICT as a learning tool and process
- Select and evaluate ICT learning resources through rigorously applying relevant education criteria
- Create and trial ICT based learning resources that are relevant to the changing needs of classroom teachers and schools
- Enhance their developing professional expertise by adopting a reflective and critical perspective on the practical uses of ICT in education
- Work collaboratively in task oriented groups to solve significant problems
- Act as a 'change agent' in helping schools successfully integrate ICT into the curriculum through organizational transformation and the professional development of teachers
- Demonstrate that they can apply the techniques needed for the formulation of a school technology plan, its implementation and the evaluation of outcomes

COURSE CONTENT

Introduction and overview of course
- Instructor's expectations and approach to learning.
- Assignments.

- Polices on attendance, lateness and submission of assessments.

Overview and discussing of:
- Characteristics of excellent ICT teachers / lessons
- Good quality teaching and learning with ICT
- 21st Century learning and teaching Tools; emerging ICT teaching tools
- Curriculum, constructivism and integration of ICT

Overview of different components of teaching: Lesson planning
- Educational issue
- Developing lesson objectives linked to syllabus
- Choosing relevant content
- Selecting useful teaching and learning strategies
- Selection and use of learning resources
- Assessment of student learning outcomes linked to lesson objectives
- Evaluating lessons in relation to the syllabus goals

Objectives & Content
- Practice in development lesson objectives
- Process and criteria for content selection–locating, evaluating, and modifying content related to lesson objectives and students profiles.
- Role of ICT

Teaching & Learning Strategies
- Practice in content selection continued: Key teaching and learning strategies, and the role of ICT in education. Where appropriate demonstration of how ICT can be used to enhance and extend the following strategies:
  o Explaining
  o Discussing

Microteaching
- Microteaching: Explaining and Discussing

Teaching & Learning Strategies
- Group work
- Problem solving – use of ICT
- Simulations – use of ICT
- Individualized instruction and computer based learning
- How to develop student literacy skills – using ICT to locate relevant information, analyses and interpret it, evaluate its usefulness, and communicate results.
- Project based learning – students use their information literacy skills to carrout research
- Using a course management system and flexible delivery of learning e.g. Moodle

Resources
- Selection and use of learning resources
- Practice in selection and use of learning resources

Microteaching
- Group work, Problem solving, or Simulations strategies

Assessment
- Assessment of student learning outcomes and role of ICT in different assessment techniques
- Short answer questions
- Multiple-choice questions
- Tests and exams'
- Projects
- Portfolios
- Rubrics
- Problem Solving
- Assessments of skills
- Developing assessment of student learning outcomes and role of ICT in different
  - assessment techniques

Two hour discussion topics:
- Why is it important that ICT be used within a constructivism framework?
- What does research tell us about the outcomes of using ICT in high schools?
- What are the claimed benefits?
- What are the problems and issues?
- How can they be overcome?

Two hour discussion topic:
- What key competencies must the ICT teacher have for success at the classroom and school level?

Two hour discussion topics:
- How can ICT are integrated into the curriculum? Models and approaches.
- What are the typical problems teachers face prior, during and after the integration of ICT takes place?
- How can these problems be resolved?

Two hour discussion topic:
- How can ICT are integrated into the curriculum? Critical review of online case studies using ICT in the curriculum? Review at least 8 subject areas. : Golden High School case study.
- How should ICT be integrated into a discipline study area?
- What are the different principles and processes that can be used to systematically integrate ICT?

Two hour discussion topic:
- How should a classroom teacher and more broadly a school select and evaluate ICT learning resources? Adopting appropriate criteria – what are their strengths and weaknesses.

- What is the role of the ICT teacher in this process?

One hour discussion topic:
- Development of microteaching skills – simulations, drill and practice, e-learning website, problem solving software, generic software, communication and demonstration, and computer assisted learning

Two hour discussion topic:
- What are the key skills, knowledge and attitudes needed by the ICT teacher for success in schools?
- The ICT teacher as 'change agent' within the school curricula

Development of microteaching skills continued

Two hour discussion topic
- Professional ICT development of classroom teachers

Two hour discussion topic:
- Developing a School based ICT Plan – goals, planning process, managing the process.
- What is the role and responsibility of the ICT teacher in developing the ICT plan?

One hour discussion topic:
- Implementation and evaluation of the ICT plan

Review of major themes of the course

Evaluation of the course

READING LIST
1. Ally, M. (2009). Mobile Learning: Transforming the Deliver of Education & Training. Marquis Book Printing, Canada
2. Borich, G. D. (2007). Effective Teaching Methods: Research-Based Practice. Pearson Education.
3. Burns, M. and Dimock, K. V. (2007). Technology as a catalyst for school communities: Beyond Boxes and Bandwidth. USA. Rowman & Littlefield Education.
4. Ewy, C. A. (2003). Teaching with Visual Frameworks: Focused Learning and Achievement Through Instructional Graphics Co-Created by Students and Teachers. CORWIN PRESS, INC: California
5. Ivers, K. S. and Barron, A. E. (2006). Multimedia Projects in Education: Designing, Producing, and Assessing. LIBRARIES UNLIMITED: Wesport, Connecticut, London.
6. Green, T.D., Brown, A., Robinson, L. (2008). Making the most of the web in your classroom. CA: Corwin Press.
7. Lamb, A. (1997). The Magic Carpet Ride: Integration Technology into the K-12 Classroom. USA

8. Loveless, A. and Ellis, V. (2001). ICT, Pedagogy and the Curriculum: Subject to Change. London and New York. Routledge Falmer
9. Nelson, K.J. (2008). Teaching in the digital age, CA: Corwin Press.
10. Pitler, H., Hubbell, E.R., Kuhn, M., Malenoski, K. (2007). Using Technology with Classroom Instruction that works: ASCD, MREL
11. Roblyer, M.D. (2006). Integrating Educational Technology into Teaching: Pearson Prentice Hall.
12. Smaldino, E. S., Lowther, D. L., Russell, J. D. (2008). Instructional Technology and Media for Learning. Pearson Education.
13. Wegerif, R. and Dawes, L. (2004). Thinking and Learning with ICT: Raising achievement in primary classrooms. USA and Canada. Routledge Falmer.
14. Gillespie, H.(2006). Unlocking learning and teaching with ICT : identifying and overcoming
15. Leask,M. (2006). Learning to teach using ICT in the secondary school.
16. Leask,M. (2006). Issues in teaching using ICT
17. Buckingham, D.(2007). Beyond technology : children's learning in the age of digital culture
18. Newby, T.J. at all (2005). Educational Technology for Teaching and Learning (3rd Edition)
19. Roblyer, M.D. (2006). Integrating Educational Technology into Teaching (4th Edition): PEARSON