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A. Core Courses

Course Code : NEDD901

Course Title : Literature Review Methods

Academic Units : 4

Description : This course is designed to help students analyse and synthesise the literature for their research, thereby establishing the significance of their dissertation proposal. The outcome of this course will therefore be a literature synthesis paper with clear articulation of issues in the field of research of students interests and strong justifications for the significance of the study. It will lay a working foundation for the literature review chapter for their respective proposals. Some advanced library skills will also be introduced. Upon successful completion of the course, students should be able to: (1) defend the scope of a review; (2) extract main ideas from a given paper; (3) undertake grounded data analysis; (4) critique the quality of their peers review processes; and (5) write a review paper ready to be submitted to a peer-reviewed journal.

Course Code : NEDD912

Course Title : Research Methods I

Academic Units : 4

Description : This course will provide students with a basic but sound understanding of both qualitative and quantitative research methods in education. The course will focus on the theoretical, methodological and practical aspects of research methodologies. The aim is to provide the necessary insights on educational research in: (a) identifying gaps in current research in a particular area of study, (b) developing meaningful research questions, and (c) understanding research designs, and analyses. Discussions on planning and validity of research designs will enable participants to evaluate the validity of research that has been conducted in a particular educational area. These experiences will increase students appreciation of the complexities involved in working with data, and hence enable them to construct research findings with qualitative and quantitative methods. On one hand, qualitative methodologies offer powerful means of distilling the nuances and essences of learning experiences and interactions beyond purely cognitive and individualistic activities. On the other, quantitative methodologies stipulates a systematic empirical investigation of observable phenomena via statistical, mathematical, or computational techniques.

Course Code : NEDD913

Course Title : Research Methods II

Academic Units : 4

Description : This course will provide students with an advanced understanding of both qualitative and quantitative research methods in education. To read this course, students must have successfully completed the Research Methods I course. Students will be required to develop a sound and defensible research proposal. The goal of a research proposal is to present and justify the purpose to investigate a research problem, design and justify in practical ways how the study will be conducted. The design elements and procedures for conducting the research are governed by standards within the predominant discipline in which the problem resides. Research proposals involve extensive review of the literature reviews, and they must provide persuasive justifications for the proposed study. Finally, the research proposal should clearly describe a detailed methodology for conducting the research consistent with requirements of the professional or academic field. Discussions on planning and validity of research designs will enable students to evaluate the validity of research that has been conducted in a particular educational area. These experiences will increase students appreciation of the complexities involved in working with data, and hence enable them to construct research findings with qualitative and/or quantitative methods. Students will also be expected to showcase in-depth understanding of the methodologies through critical reviews as well as application through presentation and written reports.

B. Specialisation Courses

Curriculum and Teaching

Course Code : EDCT901

Course Title : Inquiry into Curriculum and Teaching

Academic Units : 4

Description : The course aims at assisting doctoral students in developing a critical, broad, and well-informed understanding of the complexity and dynamic nature of curriculum, curriculum making, and classroom teaching and a capacity for conducting inquiry into complex curricular and pedagogical issues. At the end of the course, students are expected to: (1) become familiar with the major works, ideas, and terms in curriculum studies and related fields; (2) be able to relate research on curriculum and teaching to broad social, cultural, institutional, and political contexts, issues and concerns; (3) apply theories to critically analyze specific curricular and pedagogical issues and formulate defensible solutions; (4) develop abilities to read, analyze, and critique scholarly texts and ideas; and (5) develop abilities to produce academic writing.

Course Code : EDCT902

Course Title : Advanced Studies on Assessment and Learning

**Academic
Units** : 4

Description : This is a doctoral seminar-based course to help participants in developing a broad, critical, and well-informed understanding of the conceptual and empirical questions related to learning and assessment practices. In doing so, it seeks to develop in participants the capacity for conducting inquiry into the complex and dynamic issues related to these practices. Participants are expected to read the research critically, examine the key issues embedded, and articulate and apply the key ideas in examining their respective chosen research problems. The course provides opportunities for participants to review and re-examine their research problems, with reference to the key learning and assessment issues, and in light of the self-selected literature they read in the seminar.

Educational Leadership and Change

Course Code : EDLC901

Course Title : Current and Emerging Theories and Practices in Leadership and Management

Academic Units : 4

Description : Much of the discussion on existing educational leadership in the past decade arrives at two main conclusions: (1) there is still a need for contextualizing leadership; (2) there is an emerging literature on the local context-influenced leadership practices; and (3) there is an increasing need for building up on leadership capacity in order to respond to the demands faced by education leaders today. Educational leadership theories that have emerged over the past decade reflect the responses of researchers, policy-makers and programme developers to these conclusions. Specifically, an increasing evidence-based literature has emerged to inform local educational leaders in leadership practices. This course focuses on the current and emerging theories and practices of leadership and management. The course also aims to compare leadership findings between western and eastern contexts.

Course Code : EDLC902

Course Title : Ethics for Leaders

Academic Units : 4

Description : The course encourages participants to take a comprehensive view of the normative dimensions of leadership and reflect on their roles as ethical leaders in their professional contexts. Leaders have the duty and responsibility to be clear about their personal and professional values and ethical commitments. They have the further responsibility of creating an environment that contributes to the moral development of their students, staff and/or other educational stakeholders. But what does it mean to develop a good person as well as a good citizen? What are the tensions leaders have to confront and negotiate in pursuing the goal of holistic development? How should leaders deal with potential clashes of values in terms of their obligations to self, the profession, as well as the organisation? This course encourages participants to explore the above questions through a critical engagement with relevant literature and real-life case studies.

English

Course Code : EDEL901

Course Title : Sociolinguistic Perspectives on the Classroom

**Academic
Units** : 4

Description : This course examines language in its social context, including language use in multilingual communities, social reasons for language change, language planning, pidgin languages, linguistic variation based on geography, social class, and gender, and issues in cross-cultural communication. It also considers the impact these concepts have on Singapore classrooms.

Course Code : EDEL902

Course Title : Language and Literature Education

Academic Units : 4

Description : Historically, literature and language have not been dichotomous terms. Literature as a concept emerged in the fourteenth century and its latin root is littera denoting a letter of the alphabet. In this sense literature was tied to literacy or, more specifically, the ability to read. It was only later that literature became connected to the concept of taste involving the ability to read particular kinds of text and the discipline emerged in distinction from fields of language and linguistics. In this course, we seek to examine historically the disciplinary schism between English language and English literature and explore socio-cultural, linguistic and textual theories advocating an integrated approach to English language teaching. In the process, we aim to problematize the dichotomies between reading and writing, literacy and literariness, the functional and the aesthetic.

Course Code : EDEL903

Course Title : Bilingualism and Biliteracy: Theory and Practice

**Academic
Units** : 4

Description : This course provides an in depth look at the theory, practice, methods of data collection, approaches to data coding, and new directions in the field of bilingualism and biliteracy. The course will focus on both biliteracy in the classroom and biliteracy in society. In terms of the classroom we will discuss how best to teach children who are learning English as a second/third language and how to help emergent bilinguals struggling to acquire reading skills in English. In terms of biliteracy in society, we will look at the way biliteracy is celebrated in advertising, media and creative writing.

Course Code : EDEL904

Course Title : Critical Literacy: Theory into Practice in the Language Classroom

Academic Units : 4

Description : This course offers a fresh approach to the teaching of English Language from a critical literacy perspective. While the primary aim of the course is to show participants how to do critical literacy in the classroom and provide models for practice that can be adapted to any context, the theoretical orientation of critical literacy is given equal attention to show how social/critical theory may inform classroom practice. The course will inspire participants to take seriously the relationship between language and power and also orient readers critically to the social and pedagogical effects of texts.

Humanities and Social Studies

Course Code : EDHS901

Course Title : Issues and Research in Humanities Education

**Academic
Units** : 4

Description : This course provides an introduction to issues and research in humanities education and opportunities to examine the ways current research can be applied to classroom practice in Singapore. Participants will have opportunities to examine issues central to curriculum, student learning and thinking, and pedagogy, and consider implications these studies have for teaching and learning in the humanities. The course provides opportunities to explore a range of issues, the purposes of the subjects and different perspectives within the field.

Course Code : EDHS902

Course Title : Curriculum Leadership in Social Studies

**Academic
Units** : 4

Description : Many issues and challenges are involved in the implementation of Social Studies, one of the most important subjects for citizenship education. This course aims to prepare participants to lead in curriculum development, pedagogical innovations and professional development in social studies. Participants will be encouraged to examine the distinction between curriculum management and leadership, and to consider opportunities for collaborative curriculum design and professional discourse on the theory and practice of curriculum leadership.

Learning and Motivation

Course Code : EDLM901

Course Title : Theory, Research and Practice in Teaching and Learning

Academic Units : 4

Description : This course on advanced educational psychology provides a detailed analysis of modern learning theories and practices as they relate to education. It embarks on a detailed investigation of major research in educational psychology focusing on learning cognition. Historically, the field of educational psychology gained from a series of learning theories, including behaviorism, social cognitive theory, information processing, and constructivism. In this course, these theories are examined in depth. The question, how do humans learn (best)? is at the heart of such theories, and graduate students are invited to construct and reconstruct their personal theories of learning throughout the course. However, modern day educational psychologists face questions that are considerably more varied and diverse than simply, what constitutes learning? Increasingly, they are concerned with a variety of topics, including knowledge building, the role of working memory, the importance of emotions and student well-being, encouraging innovation and critical thinking, incorporating learners with special needs, as well as engaging adult learners. In considering these topics, a common theme continues to be how psychological principles can illuminate processes of learning and teaching. This course thus considers how theory, research, and practice inform each other in order to improve the efforts of educators.

Course Code : EDLM902

Course Title : Understanding Learner Motivation: Theory, Research and Practice

Academic Units : 4

Description : As one of the two core concentration courses, this course provides participants with an in-depth understanding of the theoretical underpinnings of learner motivation. The course covers an overview of the central theories of motivation, with a focus on how these can be applied in the classroom context to foster learning. In doing so, participants will be invited to explore issues related to the motivation of learner, the factors affecting learner motivation, and the strategies that could be employed to promote motivation. Participants will be required to carry out a critical review of existing literature on motivational constructs of their interest, which leads to the development of a research proposal relevant to their anticipated EdD research.

Mathematics

Course Code : EDME901

Course Title : Theoretical Perspectives and Issues in Mathematics Education Research

Academic Units : 4

Description : In this course, there is potential depth for EdD students to explore and examine theoretical perspectives and issues in mathematics education research specifically through the assignment they will embark on during the course. The course aims to introduce participants to theoretical perspectives and issues in mathematics education research that focus on three main areas namely mathematical content, the mathematics learner and the mathematics teacher. Both international and local contexts and studies will form the bedrock of the deliberations during the course. The key objectives of the course are to: (1) explore theoretical perspectives related to mathematics education, and issues in mathematics education research; and (2) facilitate development of knowledge and skills for further work in understanding and doing mathematics education research.

Course Code : EDME902

Course Title : Curriculum Studies in Mathematics

Academic Units : 4

Description : This course will give in-depth experience for EdD students to further explore and study curriculum issues within the context of mathematics education, both locally and internationally. The course aims to introduce participants to issues and research on curriculum development in relation to mathematics education. In particular, the objectives of the course are to: (1) familiarise participants with the process and issues of mathematics curriculum development; (2) examine and critique the development of the Singapore Mathematics Curriculum from the perspective of curriculum development process; and (3) analyse, critique, and compare and contrast mathematics curriculum of other countries with the Singapore Mathematics Curriculum.

Science

Course Code : EDSC901

Course Title : Foundations of Science & Science Education

Academic Units : 4

Description : This course provides an overview of the theoretical and research traditions in science education. It discusses the nature of science from historical, philosophical and sociological views of science, and introduces three dominant perspectives in science educational research: constructivist, sociocultural and critical. Participants will learn about the intellectual roots and assumptions of each perspective, understand their respective research goals and methods, and evaluate their views on improving science teaching and learning. Empirical studies that adopt these perspectives will also be examined and discussed. Above all, this course will prepare participants to appreciate the role of theories in science education and make connections between theories, research and classroom practices.

- Course Code** : EDSC902
- Course Title** : Science Curriculum Change and Curriculum Evaluation
- Academic Units** : 4
- Description** : The purpose of this course is to provide the participants with opportunities to examine key issues in conceptualisation, enactment and evaluation of the science curriculum, and their implications for research and development. The participants will learn about the history of changes to the science curriculum around the world. They will examine science standards documents from various countries and make connections to our Singapore science curriculum frameworks. They will unpack the term scientific literacy as discussed in 21 Century Competencies literature and understand its connections to PISA. With knowledge about the sociopolitical context of science curriculum reform and issues in science reform, course participants will appreciate the usefulness of understanding evaluation perspectives and methods and apply them to design an evaluation study of a school-based science curriculum or programme.

Course Code : EDSC903

Course Title : Science as Practice

**Academic
Units** : 4

Description : Science as practice aims to bring the practices that scientists engaged in as they go about their daily business of doing science into science classrooms. It is argued that when students are engaged in science as practice, they get a more accurate idea of what science is and are better able to carry out practices of science such as inquiry in science. Amidst the varied discourses of science as practice in science education community, there is still no clear picture of how science as practice can be carried out. This course offers participants the various theoretical arguments relating to science as practice, particularly science as inquiry. These theoretical arguments will be applied to examine and critique interactions that happen in science classrooms so as to surface the nuances and complexities of science as practice in reality.

Course Code : EDSC904

Course Title : Assessment of Students' Alternative Conceptions and Conceptual Change

Academic Units : 4

Description : This course seeks to: (1) strengthen the theory-practice nexus of the constructivist perspective in science education; (2) raise educators awareness of student difficulties in school science and for them to design instruction to address these difficulties in order to help students learn meaningfully; and (3) introduce research in identifying misconceptions and effecting conceptual change.

Course Code : EDSC905

Course Title : Science Discourse: Language, Literacy & Argumentation

Academic Units : 4

Description : Language plays an important role in science and in science teaching. Science teachers need to be cognizant of the nature and role of language in science, and how scientific language differ between everyday language. This will help teachers become more aware of the difficulties students have with learning the scientific language. Classroom talk plays an important role in socializing students into the language of science. A communicative framework will be introduced to help teachers understand the role of talk in science teaching and learning, and to analyse and orchestrate talk more effectively to support science learning. Argumentation, as an important scientific practice and discourse type, will be highlighted as a pedagogical approach and strategy in developing students scientific practices and conceptual understanding.

Course Code : EDSC906

Course Title : Representations & New Media in Science Education

Academic Units : 4

Description : Learning science involves students making sense of and generating multiple modes of representations (e.g., written text, images and mathematical symbols) that characterise science. Classroom teachers also make use multiple media and forms of representations to present the subject matter and shape their students conceptual understanding. This course will offer participants an overview of the theories and analytical tools so that participants are able to examine representations and media that are used in research and in classroom practice. In addition, participants will apply the theories learned to analyse representational artifacts commonly used in the teaching of science (e.g., diagram, textbook), including the use of new media such as simulation and video to determine their efficacy in supporting student learning.

Course Code : EDSC907

Course Title : Critical Studies in Science Education

Academic Units : 4

Description : In this course, participants will learn about critical theory and examine issues in science education with a critical lens. They will learn about what it means to teach science with critical praxis and be a reflexive science practitioner. They will acquire the vocabulary used in critical science education research. Specifically, multiculturalism and gender issues in science education will be discussed and pedagogies that enhance student participation in science. Critical methodologies and validity issues in critical research will also be discussed. During this course, they will discuss taken-for-granted assumptions about schooling, curriculum, teaching, and learning. Then, they will apply the theories learned to design culturally relevant science activities.

Technologies and Technology-Mediated Learning Environments

Course Code : EDTM901

Course Title : Trends and Issues in the Use of ICT in Education

Academic Units : 4

Description : This course focuses on the study of emerging forms of technology mediated learning environment including but not limited to computer-supported collaborative learning, mobile assisted learning, digital game-based learning and gamification, ICT as cognitive and epistemic tools, flipped, blended and e-learning etc. It discusses the technological pedagogical affordances that give rise to these environments and the issues and research gaps pertaining to them.

Course Code : EDTM902

Course Title : Theoretical Foundations of Technology-Mediated Learning Environments

Academic Units : 4

Description : The pervasiveness of technology is taken for granted in modern societies. Technology-mediated means of learning, whether using the Web, using new media, or via mobile handheld devices, are increasingly commonplace. Uninformed and uncritical uses of such technologies abound. This course seeks to equip students with sound theoretical bases for making compelling design decisions with respect to technology-mediated learning environments in order to engender high quality learning outcomes relevant to the needs of contemporary society. To this end, the course will first probe and interrogate ontological and epistemological issues that underpin traditional approaches to learning. Second, it will broaden students exposure to alternative understandings through exposure to other worldviews. A critical connection to pedagogy will then be developed so that students can begin to grasp the vital relation between metaphysical assumptions and pedagogic principles. This understanding will then be directed toward application, to support formal and informal learning in the contemporary world.

Visual and Performing Arts

Course Code : EDVP901

Course Title : Research and Issues in Art Education

**Academic
Units** : 4

Description : Visual art / art education research is an emergent field. Much of the scholarship in this field is born out of a need to address perceivable deficiencies in current research paradigms. In order to appreciate how visual art as research can add value to existing research conversation, an in-depth understand of foundational qualitative and quantitative research concepts and paradigms is a must. In addition, as research within visual art is grounded in studio processes, purposive use of studio practice to catalyze critical discourses will be a prominent aspect of this course.

Course Code : EDVP902

Course Title : Visual Arts and Creativity

**Academic
Units** : 4

Description : This course explores and considers recent research on creativity in relation to art educational practices. This course will cover various theories and perspectives on creativity and will draw upon creative and innovative developments in the field of arts, culture and the sciences to exemplify the interconnectivity, relevance and centrality of the arts to innovations. Implications for childrens artistic development will be discussed in the context of the above understanding. Various theories will be made relevant through studio based experiences and in-depth class discussion throughout this course.

Course Code : EDVP911

Course Title : Drama Education, Curriculum and Assessment

Academic Units : 4

Description : In this module participants will trace developments in drama education, both internationally and within Singapore, as they critically reflect upon the underlying historical, political, social and educational motivations and agendas in the field. Through theoretical discourses and embodied explorations participants will consider: (1) drama as an art form and the teaching of art for arts sake within formal and informal curriculum; and (2) types of learning that drama can facilitate within the formal and informal curriculum. To meet the growing interest and increasing demand for drama as a pedagogy and vehicle for learning, this course engages educators and researchers interested in developing drama-based studies with the foundational knowledge, history and frameworks for understanding and interrogating the field.

Course Code : EDVP912

Course Title : The Teacher as Facili-Actor

Academic Units : 4

Description : This course responds to the ongoing changes in the education landscape that require teachers to become more engaged in active learning processes that exceed conventional book learning approaches, and embrace holistic, multi-dimensional and inter-disciplinary frames. The arts, particularly drama, is an ideal platform through which to do this, as it is inherently open to change and integrative of multiple knowledges. The teacher as facili-actor can then embody and enact these critical pedagogies and practices. The teacher as performer is interrogated in relation to cultural and social practices that inform how teachers are expected to articulate themselves and execute particular duties. Students will engage with performance theory, facilitation techniques and practical tasks that apply notions of performativity to the work of education through drama-based activities and frameworks. They will learn and develop teaching processes that draw from performance strategies and skills.

Course Code : EDVP921

Course Title : Issues in Music Education

**Academic
Units** : 4

Description : This course focuses on the historical, psychological and sociological foundations of teaching and learning music. The course also explores in depth current curricular thinking and issues in music education.

Course Code : EDVP922

Course Title : Philosophy of Music Education

**Academic
Units** : 4

Description : This course centres on the philosophical foundations of music education. In particular, it seeks to address the big questions that confront contemporary music education. Course readings range from ancient to living scholars and philosophers, and cut across cultural borders in its inclusion of Asian and comparative philosophical writings.