DOCTOR IN EDUCATION – COURSE DESCRIPTIONS

A. <u>CORE COURSES</u>

NEDD 901 Literature Review Methods
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.

NEDD 902 Quantitative Research Methods
This course aims to develop students' knowledge and skills in quantitative inquiry in educational research. This course covers the concepts, theories and practices associated with the design, measurement, analysis and inference procedures of quantitative educational research. The course addresses a range of topics including the generation of research questions/hypotheses, sampling, measuring instruments, survey, experimental research, correlational research, content analysis and validity and reliability issues. Descriptive and inferential statistics will be covered when appropriate, with the focus on conceptual understanding, appropriate selection and utilization of statistical procedures rather than on statistical theory and computation per se.

NEDD 903 Qualitative Research Methods
This course delves into the theoretical, methodological and practical aspects of using qualitative methodologies to examine institutional practices within different organizations. Given the complexities of practices within different organizations, qualitative methodologies offer powerful means of distilling the nuances and essences of learning experiences and interactions beyond purely cognitive and individualistic activities. In this course, students will be exposed to different means of collecting, analyzing and writing about data either from a small sample or from participants who are not randomly sampled. This course aims to equip students with skills to: (1) analyze the basic assumptions of research traditions and specify the interrelationships among them; (2) select the appropriate qualitative research method(s) to answer their specific research questions; (3) reflect on issues to consider when selecting participants; (4) consider the rigour and ethics of qualitative research; and (5) consider operational, ethical and logistical details when collecting qualitative data, analyzing the data, and aligning theories, data and practice to construct a coherent and powerful thesis.

B. <u>SPECIALISATION COURSES</u>

1. Curriculum and Teaching
(with the Curriculum, Teaching and Learning Academic Group)

EDCT 901 Inquiry into Curriculum and Teaching
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.

EDCT 902 Advanced Studies on Assessment and Learning
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.

2. Educational Leadership and Change
(with the Policy and Leadership Studies Academic Group)

EDLC 901 Current and Emerging Theories and Practices in Leadership and Management
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.

EDLC 902 Ethics for Leaders
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.

3. English
(with the English Language and Literature Academic Group)

EDEL 901 Sociolinguistic Perspectives on the Classroom
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.

EDEL 902 Language and Literature Education
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.

4. Humanities and Social Studies
(with the Humanities and Social Studies Education Academic Group)

EDHS 901 Issues and Research in Humanities Education
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.

EDHS 902 Curriculum Leadership in Social Studies
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.

5. Learning and Motivation
(with the Psychological Studies Academic Group)

EDLM 901 Theory, Research and Practice in Teaching and Learning
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.

EDLM 902 Understanding Learner Motivation: Theory, Research and Practice
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.

6. Mathematics
(with the Mathematics and Mathematics Education Academic Group)

EDME 901 Theoretical Perspectives and Issues in Mathematics Education Research
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.

EDME 902 Curriculum Studies in Mathematics
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.

7. Science
(with the Natural Sciences and Science Education Academic Group)

EDSC 901 Foundations of Science and Science Education
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.

EDSC 902 Science Curriculum Change and Curriculum Evaluation
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.

EDSC 903 Science as Practice
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.

EDSC 904 Assessment of Students' Alternative Conceptions and Conceptual Change
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.

EDSC 905 Science Discourse: Language, Literacy and Argumentation
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.

EDSC 906 Representations and New Media in Science Education
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.

EDSC 907 Critical Studies in Science Education
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.

8. **Technologies and Technology-Mediated Learning Environments**
   (with the Learning Sciences and Technologies Academic Group)

EDTM 901 Trends and Issues in the Use of ICT in Education
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.

EDTM 902 Theoretical Foundations of Technology-Mediated Learning Environments
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.

9. Visual and Performing Arts
(with the Visual and Performing Arts Academic Group)

Art Focus
EDVP 901 Research and Issues in Art Education
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.

EDVP 902 Visual Arts and Creativity
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 children's 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.

Drama Focus
EDVP 911 Drama Education, Curriculum and Assessment
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 art's 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.

EDVP 912 The Teacher as Facili-Actor

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.

Music Focus

EDVP 921 Issues in Music Education

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.

EDVP 922 Philosophy of Music Education

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.