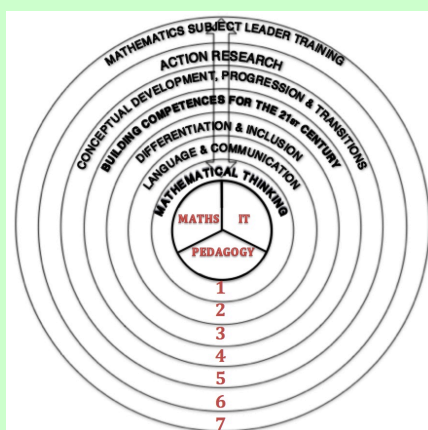


**AIMS**African Institute for
Mathematical Sciences
SCHOOLS ENRICHMENT CENTRE6 Melrose Road, Muizenberg, Cape Town
7945, South Africa +27(0)21 787 9337
info@aimssec.ac.za <https://aimssec.ac.za>

AIMSSEC offers a programme of professional development for teachers in seven courses to train teachers to be mathematics subject leaders.

As you pass each course you will be awarded an AIMSSEC certificate.

Courses will be registered for SACE endorsement and professional development points.

Every course has a residential component followed by 3-months or 6-months distance learning involving mathematics subject knowledge, pedagogy and IT.

Crucial issues in teaching and learning mathematics, as depicted in the diagram, are the foci of the courses. All these issues are also discussed during the rest of the programme.

Do you want to be a really effective Head of Department? Or do you work as a teacher trainer for an NGO or a subject adviser for local government?

If so then you might find that AIMSSEC has the courses you need.

AIMSSEC SUBJECT LEADERSHIP PROGRAMME 7-STEP SEQUENCE OF BLENDED LEARNING COURSES

All courses follow a similar pattern for primary and secondary teachers designed to develop PCK, SCK and IT skills and a sense of professional identity.

Course Description	Pedagogic Content Knowledge (PCK)	Subject Content Knowledge (SCK)	Technology (IT)
MATHEMATICAL THINKING PROBLEM SOLVING & IT IN TEACHING AND LEARNING MATHEMATICS 9 DAYS + 3 MONTHS			
Professional development course taught 32 times since 2003 for 2000 teachers from all SA provinces and also in East Africa. Three parallel groups of teachers for 3 phases: Primary, Lower & Upper Secondary.	Introduction to lesson planning (Planning for Learning). Teachers write a daily reflective journal. Two assignments to plan, teach and report on two lessons.	Work across each phase with in depth focus on the subject content for start of primary, lower & upper secondary. All courses have a subject content exam and school-based assignments during the distance learning phase	Introduction to the internet and searching, electronic communication, WhatsApp, The AIMSSEC App and Moodle for downloading and sending pdf's. Word, Excel, and Geogebra.
LANGUAGE AND COMMUNICATION OF MATHEMATICAL CONCEPTS IN TEACHING AND LEARNING MATHEMATICS 7 DAYS + 3 MONTHS			
Professional development that focuses on effective teaching in classrooms where the home language and language of instruction are different to improve the understanding of mathematical concepts and the competences of communication (oral and written) and team working.	Offering teaching strategies to promote mathematical understanding and mastery of both the language of instruction and the language of mathematics in line with research findings and understanding of the challenges faced in different learning environments.	Focus on teaching number, algebra, functions, financial maths and probability through classroom activities promoting effective learning and communication (speaking, reading, writing) of mathematical language and concepts.	Further work on Word including Equation Editor and drawing. Excel and Geogebra, Powerpoint and Pickers. Introduction to coding.
DIFFERENTIATION AND INCLUSION IN TEACHING AND LEARNING MATHEMATICS 7 DAYS + 3 MONTHS			
Professional development in formative assessment and understanding how to meet the learning needs of high flyers as well as learners with learning difficulties and special needs. Basic introduction to the relevant laws of the country.	Planning lessons that engage the whole class and give success to all learners, recognising and building on their strengths, while at the same time offering suitable challenges to learners of all abilities.	Focus on teaching methods in geometry, measures and statistics and, at upper secondary, analytic geometry and trigonometry, to engage all learners and lead to successful progress for all.	Introduction to the International Computer Driving License (ICDL) Profile. ICT in Education 1. Key Concepts: Benefits, Pedagogy and ICT
TEACHING MATHEMATICS TO BUILD SKILLS FOR THE 21ST CENTURY 7 DAYS + 3 MONTHS			
Collaborative professional development (CPD) on inquiry based learning and teaching to build the skills and competences needed for the 21 st century.	Planning to teach mathematical thinking and logical reasoning, and to develop skills of problem solving, communication, cooperation, team-working and independent learning.	Work across whole phase with in depth focus on concept development, progression and mathematical learning activities for the development of skills and competences.	Introduction to software for handling big data sets ICDL ICT in Education 2. Planning: Lesson Planning, Safety, security and Well-being
CONCEPTUAL DEVELOPMENT & PLANNING FOR TRANSITIONS IN EDUCATION 7 DAYS + 3 MONTHS			
Course focusing on progression, development of concepts and meeting the needs of learners going on to their next stage in education.	How to use formative assessment and to prepare learners for exams, to move to the next stage of their education and to build on what they know.	Focus on concept development in the transitions from school years 3 to 4, from 6 to 7 & 8, from 9 to 10 and 12 or 13 to HE.	ICDL ICT in Education 3. Selecting and evaluating ICT resources for teaching and learning. Introduction to coding
ACTION RESEARCH 7 DAYS + 6 MONTHS			
Teachers are introduced to research methodology and plan a 6 month Action Research project to improve some aspect of their teaching and write a mini-thesis.	Introduction to research methods. Teachers choose their research questions, who to involve and how to gather evidence, conduct their own research and write a report.	Focus on planning for, and collecting evidence for the effectiveness of, their own chosen teaching strategy for improving learner's understanding of subject content.	ICDL ICT in Education 4. Managing the Learning Environment. How to use a smartboard.
TRAINING FUTURE LEADERS IN MATHEMATICS EDUCATION 7 DAYS + 6 MONTHS			
Focus on research informed practice and professional development of lead teachers and subject advisers. Students to be Teaching Assistants and teach on the MT course.	Students will run workshops and mentor other teachers in their home areas for six months and will be visited in their schools. How to use research in planning for teaching and learning.	Focus on in depth understanding of the content of school mathematics curriculum including, for FET teachers in S. Africa Advanced Programme Mathematics see http://www.ieb.co.za/	Learning to evaluate and harness digital opportunities. Managing a Word Press website.

See <http://aiminghigh.aimssec.ac.za> for free Lesson Resources and Workshop Guides for Collaborative Professional Development

Upper Primary

Lower Secondary

Upper Secondary

AIMS

FOR FREE LESSON RESOURCES with solutions, Notes for Teachers and Inclusion and Home Learning Guides together with **WORKSHOP GUIDES** to empower teachers to run their own Collaborative Professional Development see <http://aiminghigh.aimssec.ac.za> and <http://aimssec.app> to download the entire AIMING HIGH resource collection for use offline (Creative Commons License).

FUTURE DATES

Courses 2 to 7 will be offered from June 2021 if funding can be secured.

Applicants for courses 2 and 3 must have at least a Merit grade on the MT course. Courses 2 and 3 (in either order) are a pre-requisite for Course 4. Exceptions made for teachers with good mathematical qualifications.

August – November 2020 SAMO MT(ONLINE) COURSE – funded by **South African Mathematics Foundation (SAMF) Old Mutual** (schools and teachers already selected by SAMF – no other applications accepted.)

October 2020 – July 2021 SUBJECT ADVISOR EMPOWERMENT Courses 1 – 3. Funded by EDTP SETA – Participants from Limpopo, KZN and Eastern Cape selected by SAMF and Provincial Governments.

Mathematical Thinking, Problem Solving and IT in Teaching and Learning Mathematics. (Applications closed until further notice. The course will be available when funding can be secured)

For further information email: admin@aimssec.ac.za