



## Mathematical Thinking (MT28) Course

### 10 July – 19 July 2017

AIMSSEC is the Schools Enrichment Centre of AIMS (African Institute for Mathematical Sciences) and was established in 2003. The objective of AIMSSEC is to play a key role in the extension of educational opportunities for disadvantaged communities in South Africa; and to raise standards by improving the quality of teaching and learning of mathematics.

AIMSSEC is a community of academics, researchers, teacher trainers, school teachers and subject advisers; all working in mathematics education who share a commitment to lifelong learning and a dedication to improving the teaching and learning of mathematics. The AIMSSEC community involves all those who have taught on the AIMSSEC courses as well as former students. There is a shared belief that we must learn from mathematics education research and that teaching for the 21<sup>st</sup> century must be different from the past because different skills are needed in this radically changed and rapidly changing society.

The **Mathematical Thinking (MT28)** course is for teachers and subject advisers and involves a residential course at the Cape Academy of Mathematics, Science and Technology (CAMST) Firgrove Way, Constantia, Cape Town from 10 – 19 July 2017 followed by 3 months of distance learning. All participants are expected to be in residence for the full duration of the course and are taught according to the phases of their learners; ranging from grade 4 to grade 12. There is a test at the end of the residential course to assess the content learnt during the course. Each participant is expected to complete 2 assignments following the residential course. The assignments are designed to encourage the participants to reflect on their teaching practice as they embark on a journey of lifelong learning.

At the residential course, sessions run from 8:15 to 20:00 each day, starting with an 80 minute mathematics plenary session **where all the teachers from the different phase groups learn together**. These sessions involve mathematics that is new to all the teachers and that has relevance to teaching mathematics in all phases. Plenaries may include for example: designing tessellations and studying their occurrence in African art, making mathematical models, people mathematics, for example in data handling and graphs, problem solving involving systematic and logical thinking, problems faced when teaching learners using English as a language of instruction, reflecting on how chance (probability) affects our daily lives, building and using geoboards, playing mathematical games and reflecting on their value in teaching and learning.

The **purpose of the MT course** is to secure and extend subject knowledge of mathematics and to develop pedagogical insights which lead to enquiry-based learning. There is an emphasis on **planning for learning** (rather than planning for teaching), differentiation, inclusive learning, progression, reflection on one's practice using journals and the use of formative assessment tools to identify strengths and weaknesses of learners.

Our **target audience** is teachers who would like to change from the traditional "chalk and talk" approach to a more learner-centred one, who want to be enthused with a fresh approach to teaching and learning mathematics, who are newly qualified or under-qualified and want to be part of a mathematics community to share good practice and try new ideas and those who intend to

further their studies. **Applicants must be practicing mathematics teachers with a teaching qualification.**

The MT course is also used as a **selection instrument** for enrolment into the Advanced Certificate in Teaching (ACT) to be offered by AIMSSEC in collaboration with local universities. Participants who do well in the MT course (equivalent to NQF level 5 qualification) find themselves better prepared to study the Advanced Certificate in Teaching (ACT, NQF Level 6 qualification) and the Advanced Diploma in Education (ADE, NQF Level 7). A certificate is awarded to those who satisfactorily complete the course. The MT course is endorsed by the South African Council for Educators (SACE) for 15 professional development points.

The MT course focuses on training mathematics teachers in grades 4 and 5 for the Intermediate Phase group; grades 7 and 8 for the Senior Phase group and grades 10 and 11 for the FET band. The coverage includes number, algebra, shapes, measures, data handling and probability. The course also includes IT sessions to introduce teachers to using technology in teaching mathematics and in their professional work.

The course fee includes the tuition fee, accommodation, meals and stationery during the residential course. Funds are limited but bursaries normally include a contribution to travel expenses for the most economical method of transport (e.g. Translux or City to City buses).

Teaching and learning resources are provided by the lecturers and the teachers are taught how to make cost effective teaching and learning resources. Admission to the course depends on the support of the applicant's school principal and the head of mathematics.

High standards are maintained by a team of local and international experts in mathematics education. The international team work as unpaid volunteers. The course has been conducted 26 times since 2004 for 1707 teachers from different provinces in South Africa.

Dates: 10<sup>th</sup> July, travel to Cape Town and register from 15:00 – 17:00  
11<sup>th</sup> July, MT28 course starts at 08:15  
19<sup>th</sup> July, course ends after dinner  
20<sup>th</sup> July, travel back home to have left the hostel by 11:00

For further details please email: [admin@aimssec.ac.za](mailto:admin@aimssec.ac.za).

If you are interested in attending the MT28 course please complete the application form and attach certified copies of ID, payslip, main teaching qualifications and SACE certificate; then email, fax or post the documents to one of the options below, to reach us by **31 March 2017**:

**Email:** [admin@aimssec.ac.za](mailto:admin@aimssec.ac.za)

**Fax:** 086 263 1268

**Postal address:** AIMSSEC  
MT28 Application  
65 Main Road  
Muizenberg  
7945  
Cape Town



## MT28 APPLICATION FORM (10 July – 19 July 2017)

Use block letters and ticks to fill in all 5 sections of the application form. The checklist on page 5 will help you to make sure the application is complete.

### 1. Personal Information

Title:	Mr.	Ms.	Mrs.	Other (specify)
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Gender:	Male	Female
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First names:	Initial(s)
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Surname:	D	D	M	M	Y	Y	Y	Y
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ID number:	D.O.B
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Persal number:	SACE number:
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Citizenship:	South African	Other (specify)			
Population group:	White	Black	Coloured	Indian	Other (specify)
Home language:					

### 2. Contact details

Cell phone number:	Fax:
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E-mail address:
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Postal address:	
Post code:	

Next of kin:
Next of kin's Tel:

### FOR OFFICE USE ONLY

Received	<table border="1"> <tr><td>Approved:</td></tr> <tr><td>Phase:</td></tr> </table>	Approved:	Phase:	Student Number
Approved:				
Phase:				

### 3. Details of current employment

Position:	Teacher	H. O. D.	Other (specify)
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Currently teaching mathematics	Phase	IP			SP			FET		
	Grade	4	5	6	7	8	9	10	11	12

Principal:																				
Principal's Tel:																				

Name of school:																				
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School address:																				
Post code:																				

District:																				
Province:																				

### 4. Main Qualifications

Details of main qualifications					
Period		Name of University, Technikon or College	Name of degree / dipl / cert	Completed Yes / No	Student Number
From Yr.	To Yr.				

Highest level of mathematics studied: (Specify course / module / grade)

### 5. Miscellanea

	Yes	No
1. Do you have any special dietary requirements? <i>If yes please specify below:</i>		
2. Do you have any disability? <i>If yes please specify below:</i>		
3. Do you have any medical condition? <i>If yes please specify below:</i>		
4. Do you object to AIMSSEC using your photograph in marketing materials?		
5. When travelling to Cape Town by bus, which town would you travel from (it can be the town where you live)? What is the distance between this town and your home?		
Name of nearest town: ..... Distance from home:.....km		

## REFERENCE

Please ask your Principal (or line Manager), as a senior person acquainted with your professional and academic work, to fill in the reference check form on your behalf, indicating your professional standing and general suitability as a **mathematics teacher** to undertake this course. This testimonial must be enclosed with the application form in a sealed envelope or returned directly to us by the referee. "Open" testimonials are not acceptable.

## ACCOMODATION

Accommodation is in student hostels in a boarding school for the duration of the course. Teachers usually share a room. All accommodation, food and tuition fees are catered for by the bursaries offered to teachers on the course. No children or other family members can be accommodated.

## TRAVEL

Funds are limited but bursaries normally include a contribution to travel expenses for the most economical method of transport (e.g. Translux or City to City buses).

## Checklist

Please go through the checklist to make sure you understand what is written in the application form and what you need to do. The checklist will also help you to make sure your application is complete. You can contact AIMSSEC on **021 787 9337** or [admin@aimssec.ac.za](mailto:admin@aimssec.ac.za) if you have any questions.

*Tick when done*

<b>1. Have you completed all 5 sections of this form?</b>	
<b>2. Have you noted the closing date for applications? <u>31 March 2017</u></b>	
<b>3. Have you attached certified copies of the following documents?</b>	
a) ID	
b) Payslip showing persal number	
c) Teaching qualification	
d) Other university accredited qualifications	
e) SACE certificate	
<b>4. If you post your application have you enclosed a sealed envelope with a referee form signed by your Principal/line manager? <i>The referee form is the last page of the application form. If you email or fax your application please ask your referee to do it separately to the same contact number.</i></b>	
<b>5. Have you noted the contact details for sending the application form back to AIMSSEC? <i>The contact details are on page 2.</i></b>	

Once the application is received, applicants will receive confirmation by **sms**. Confirmation of receipt is not a guarantee of a place on the course. Acceptance will be confirmed at a later date. Information given in this form will be computerised and used to inform admission decisions.

I confirm that the information that I have given in this application is true and correct to the best of my knowledge, and I understand that if offered a place, I will be committing myself to a professional development short course.

<b>Signature of applicant:</b>		<b>Date:</b>
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## REFEREE FORM MATHEMATICAL THINKING (MT28)

Course held during the July school holidays.

**To the referee:** The applicant: ..... (name);  
is applying for admission to the **AIMSSEC** professional development course. Please complete the following and return to **AIMSSEC** via fax, post or email as shown above:

Referee:																							
Tel:																							

Position:																							
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Name of institution:																							
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Address:																							
Post code:																							

1. For how long have you known the applicant?	..... Years
2. Comment on the applicant’s aptitude as a <u>mathematics teacher</u> .	
3. Comment on the applicant’s motivation, maturity, originality and initiative as a <u>mathematics teacher</u> .	
4. Comment on the applicant’s ability to conduct staff development sessions for other <u>mathematics teachers</u> at the school.	
5. For how many years has the teacher <u>taught mathematics</u> ?	.....Years

I agree that the following recommendation will be kept confidential:

Signature of referee:		Date:	
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