CALL FOR PROPOSALS TO SOUTH AFRICAN PUBLIC UNIVERSITIES

FOR THE DEVELOPMENT OF LEARNING AND TEACHING SUPPORT MATERIAL (LTSM)

by the

South African Agency for Science and Technology Advancement (NRF-SAASTA)

On behalf of the

Department of Science and Innovation (DSI)

Grant number:	**NRF SAASTA LTSM2021**
Closing date:	**19 November 2021**
Closing Time:	**Midnight**

All proposals must be emailed to LTSMproposals@saasta.nrf.ac.za by (19 November 2021 at Midnight).

Submissions received after this **date and time** will not be considered. Applicants are encouraged to submit their proposals earlier where possible. All successful applicants will receive feedback regarding the selection committee's decision.

Proposals submitted in any other format will not be considered.

	Technical enquiries may be directed in writing to:	Grants management enquiries may be directed in writing to:
Section	Project content enquiries	Grants process enquiries
Contact person	Tebalo Tsatsi Thembi Mdlalose	Maphefo Chauke
E-mail address	TL.Tsatsi@saasta.nrf.ac.za NC.Mdlalose@saasta.nrf.ac.za	ML.Chauke@saasta.nrf.ac.za

Name of institution :	
Contact Person:	
Contact telephone number:	
Contact email address:	

WHO IS ELIGIBLE TO APPLY

Only SA Public universities are eligible to apply

Please tick the relevant boxes indicating for which topic(s) you will be developing materials.

Category	
Biotechnology and Biodiversity	
Nanotechnology	
Energy, with a focus on hydrogen and fuel cell technology	
Astronomy and space science	
Palaeosciences	
Indigenous knowledge systems	
Marine sciences	

LTSM DEVELOPMENT FUNDING

INTRODUCTION TO THE NRF

The National Research Foundation Act, Act 19 of 2018, establishes the National Research Foundation (NRF) as the juristic legal entity that makes the provision for grant funding and will enter into a contract (grant) with the awarded science engagement partners. The NRF supports and promotes research and human capital development through funding, provision of National Research Facilities, science outreach platforms and programmes to the broader community in all fields of science and technology, including natural science, engineering and social science and humanities. Please visit the NRF website (https://www.nrf.ac.za) for more information.

INTRODUCTION TO NRF-SAASTA

The South African Agency for Science and Technology Advancement (NRF-SAASTA) is a business unit of the National Research Foundation (NRF) with the mandate to advance public awareness, appreciation and engagement of science, technology, engineering, mathematics and innovation (STEMI) in South Africa. NRF-SAASTA aims to be the leading science advancement agency communicating the value and impact of science and technology in a dynamic knowledge economy, and simultaneously building the science engineering technology human resource base in South Africa. Please visit the NRF-SAASTA website (https://www.saasta.ac.za) for more information.

CONTEXT OF THIS CALL

The Science Engagement Strategy (SES) of the Department of Science and Innovation (DSI), adopted in January 2015, seeks to build a society that is knowledgeable about science, able to form independent opinions on science issues and be scientifically literate. Implementation of the SES is structured in a manner that creates opportunities that supports basic education, in particular the teaching and learning of mathematics, science and technology (MST) subjects. In an attempt to promote domestic scientific areas of interest, a school-based project has been initiated aimed at producing of complementary Learning and Teaching Support Materials (LTSM) that are based on areas of strategic interest to the DSI (also referred to as DSI priority areas).

This call invites local public universities to submit proposals to develop complementary LTSM based on DSI priority areas listed in section 2 below. The materials on each topic should cover all phases of education, namely Foundation Phase (grade 0 plus grade 1 to 3),

the Intermediate Phase (grades 4 to 6), the Senior Phase (grades 7 to 9) and Further Education and Training phase (Grade 10 to 12).

The intended resources are non-formal materials and will not be part of the prescribed formal list of resources as per the Department of Basic Education (DBE). The main aim of these resources is to enable both educators and learners to improve their understanding of selected curriculum-based topics or concepts.

GUIDELINES AND OBJECTIVES

1.   Objectives of the Grant

The grant seeks to create an opportunity for local scientists and related professionals to contribute to the development of their country by producing learning materials that would cater for a vibrant learning environment that aims to help learners develop skills for the future of work. This will be realised by focusing on educators and learners.

1.1.   Educators

MST are vital in transferring knowledge and skills to learners. The resources must aim to achieve the following outcomes:
- Enhance educators' understanding of the topics and concepts and ultimately make them feel confident in dealing with concepts;
- Link the content of the resources to real-life examples relevant to the learners' environment;
- Be available to educators as other sources of information; and
- Link the content with relevant careers.

1.2   Learners

With regard to learners, the resources should aim to achieve the following outcomes:
- Stimulate interest in and build positive attitudes towards MST subjects and careers,
- Help the learners to have a better understanding of complex concepts relating to the curriculum-based topics covered,
- Be able to link what is learnt at school with everyday life.

2. Overview of current DSI priority Areas

The DSI priority areas are:
- Biotechnology and Biodiversity
- Nanotechnology
- Energy, with a focus on hydrogen and fuel cell technology
- Astronomy and space science
- Palaeosciences
- Indigenous knowledge systems and
- Marine sciences

3. General characteristics of the proposed resources

The following should guide the content and the design of the LTSM resources;
- Ensure that the content is scientifically correct
- Simple and stimulating
- Create excitement
- Show or indicate a real-life application – priority given to South African context
- Raise awareness of the value of science and build curiosity to want to learn more
- Contribute to the scientific literacy of the learner
- Should be up to date with the current technological advancements
- Flexible to allow updates if required
- Should be re-usable
- Should promote science related careers

TARGET PUBLICS

The sections of society being targeted for the resources are;
a) Learners
b) Educators

CANCELATION OF THIS CALL PRIOR TO AWARD

NRF reserves the right to cancel the award prior to issuing the funding letter and signing the contract.

GRANT CONTRACT PERIOD

The contract period commences from the date that both parties sign the contract and terminates at completion of the project as per timelines in the agreed project implementation.

IMPLEMENTATION APPROACH

The LTSM resources should be developed for cognitive levels of Grade R to Grade 12 learners. Depending on the topic, (whether the mapping, page 6, highlights all the grades or some) it is encouraged that for continuity the grant holder develop materials to cover all the grades, which cover topics on the DSI priority areas. The resources are meant to supplement the classroom activities and should be developed and produced to match the cognitive level of the learners in different grades or phases. Resources can be developed for specific grades or for specific phases.

COMPOSITION OF RESOURCES OR MATERIALS

Relevant organizations, which qualify to receive grant funding, are to develop any kind of resources they deem appropriate to satisfy the objectives of the project. These could include but not limited to games, puzzles, quiz, instruction manual – which could serve as a guide for building models, conducting experiments etc.

1. **Mapping: caps and DSI priority areas**

Analysis of the Curriculum Assessment Policy Statements (CAPS) was conducted and several curriculum-based topics across schools grades that are linked to the priority areas have been identified as depicted by the table below.

GRADE	SUBJECT	SPACE SCIENCE/ ASTRONOMY	BIODIVERSITY & BIOTECHNOLOGY	HYDROGEN FUEL	IKS	PALEOSCIENCE
GRADE R-3		Space (the earth from space, the sky at night)	Animals, Plants Products and processes		How people lived long ago	
GRADE 4	Natural Sciences/ Technology	Planet Earth & Beyond (The Earth & Sun; the Moon)		Rocket Systems	Structures	
GRADE 5	Natural Sciences/ Technology			Energy & Change	Traditional Processing	Animal Skeletons
GRADE 6	Natural Sciences/ Technology	Planet Earth & Beyond (solar system)		Systems to explore the moon and mars		
GRADE 7	Natural Sciences	Relationship of the Sun to the Earth; Relationship of the Moon to the Earth			Historical development of Astronomy	
	Technology				Indigenous Technology (construction of houses)	
GRADE 8	Natural Sciences	The Solar System; Beyond the solar system; looking into space				
	Technology				Indigenous Technology	

GRADE 9	Natural Sciences	Birth, life and dearth of stars				
	Technology				Indigenous Technology	
GRADE 10	Life Sciences		Biodiversity & classification		Application of IKS in Biotechnology	History of life on Earth; Human skeleton; fossils
	Physical Sciences			Separation of Particles in Physical Change and Chemical Change – Hydrogen combustion		
GRADE 11	Life Sciences		Biodiversity & classification of microorganisms; Biodiversity-plants; Biodiversity-animals			
	Physical Sciences			Stoichiometry (energy & chemical change; types of reactions		
GRADE 12	Life Sciences					Human Evolution
	Physical Sciences			Electrochemical reactions		

2. CAPS document

See attached Caps document foundation phase (Life Skills)
See attached CAPS document intermediate phase (Natural Sciences and Technology)
See attached CAPS document senior phase (Natural Sciences)
See attached CAPS document senior phase (Technology)
See attached CAPS document further education and training phase (Physical Sciences)
See attached CAPS document further education and training phase (Life Sciences)

BRANDING

- Any resources or materials developed by grantees with priority areas funding, will be owned and maintained as intellectual property of NRF-SAASTA.
- All resources to be developed for the project must comply with the branding rules as set out in the contract.
- The successful applicant agrees, for publicity purposes, to use the DSI and NRF-SAASTA logo on all resource materials produced for this project. The DSI logo must be prominent in position, with the NRF-SAASTA logo and your own logo to follow

NB: Branding policy and guidelines will be provided to the appointed institutions

REPORTING CONDITIONS

Organisations who receive grant funding agree to the following REPORTING CONDITIONS;

- Submit financial reports together with all requested proof three weeks after the project completion.
- Financial reports must include a financial statement, visibly approved, by a qualified Accountant who is registered with an accounting body in South Africa, e.g. Chartered Accountant, Accounting Technician, Professional Accountant (SAIPA, SAICA etc.). It is assumed that this individual is already part of the Finance Department for the organization and if that is not the case, then the grant holder who decides to use this method of reporting should ensure that costs of the services in the form of quotations, will be submitted to NRF-SAASTA for assessment and a decision, prior to utilising the services of the accountants. If found to be both necessary and reasonable, pre-approval by the Finance Manager and Managing Director at NRF-SAASTA will be communicated to the grant holder. If no prior approval was obtained to use this method of reporting, then the grant holder will be subject to auditing by NRF-SAASTA or expected to automatically revert onto the previous method of reporting by providing actual supplier slips, invoices and corresponding bank proofs of payment together with a financial report.
- Address any request for additional information or documents required by NRF-SAASTA and reply within one week of receiving a query from NRF-SAASTA.
- The editable version of the resource must be submitted to NRF-SAASTA.
- NRF-SAASTA will facilitate the process of accreditation of the resources with the South African Council of Educators (SACE)

GRANT HOLDER SELECTION PROCESS

Stage 1 – Compliance to submission requirements (MANDATORY)

DESCRIPTION	YES/NO
The institution is a public university - Page 1 refers	
Will the resource be developed in the priority areas	

NB: If the response above is *YES to all*, the institution will go through to Stage 2 of the evaluation.

If *NO*, the panel will not consider the proposal for further evaluation.

Stage 2 – Evaluation of Proposals against Requirements of the Call

- Stage 2A – Evaluation of Proposed LTSM resources against the requirements of the call.

NO.	ELEMENT	WEIGHT	SCORE
1.	**PROJECT MANAGEMENT – Evaluation of this component will be based on the activity evaluation framework:**	20	
	Is the project well-resourced in terms of STEMI specialists and information is provided of their track record in developing similar resources? <table><tr><td>**Description**</td><td>**Rating**</td></tr><tr><td>No information</td><td>0</td></tr><tr><td>Project is run by only one person who is a STEMI specialist and track record info is submitted</td><td>1</td></tr><tr><td>Project is run by a minimum of two persons of which both are STEMI specialists and track record info for both is submitted</td><td>2</td></tr><tr><td>Project is run by a minimum of TWO persons of which, one is a specialist in DSI priority research field with a minimum of at least a Master's degree and one is a curriculum specialist</td><td>3</td></tr></table>		

	Project is run by a minimum of TWO persons of which, one is a specialist in DSI priority research field with a minimum of at least a PhD degree and one is a curriculum specialist	4		

2	**Mapping: CAPS and DSI priority areas**	**15**	

Is the project focusing on different bands of school curriculum (Foundation, Intermediate, GET and FET band)?

Description:	Rating
No information	0
The project will develop a resource(s) for one band with one Priority area	1
The project will develop a resource(s) for two bands with one Priority area	2
The project will develop a resource(s) for two bands with more than one Priority area	3

3	**Confidence in the ability to deliver - The evaluation panel is looking at experience and knowledge of the project leader and team.**	**25**	

Have the team members implemented similar projects before?

Description	Rating
No information	0
Have previously developed one resource in the senior and or FET phase	1
Have previously developed one resource in the foundation phase and or intermediate phase.	2
Have previously developed one science resource in the DSI priority area.	3
Have previously developed one science resource in the DSI priority area for the foundation phase and or intermediate phase.	4
Have previously developed resources in all the phases of school (Foundation, intermediate, senior, and FET phase) in one of the DSI priority areas	5

4	**Type of resources developed**		15	

Is the project integrating a variety of resources

Description	Rating
No information	0
The proposal consists of one type of resource	1
The proposal consist of two types of resources	2
The proposal consist of more than two types of resources	3

5	**Project milestones**		10	

A project proposal with clear milestones and deliverables based on the deadline for submission

Description	Rating
No information	0
Work schedule included with limited information	1
A detailed work schedule with detailed timelines	2

6	**Contingency Plans**		15	

Does the team have access to, or hold, the capacity to implement the project? The panel will be looking at whether the proposal shows a full understanding of the capacity needed to run the proposed implementation successfully.

Description	Rating
No information	0
The proposal consists of one team member with a contingency plan	1
The proposal consists of a project manager or team leader and one team member and responsibilities are clearly indicated with a contingency plan	2
The proposal consists of a project manager or team leader and two or more team members, with a contingency plan and responsibilities are clearly indicated	3

TOTAL		**100**	

- Stage 2B – Revision of Proposed Activities (if necessary).

NRF-SAASTA reserves the right to communicate recommendations/queries and the right to request the potential LTSM development grant holder to provide a revision of their original proposal in terms of such recommendations/queries and for this revision to be returned to NRF-SAASTA as per the instructed deadline given.

Stage 3 – Funding Award and Contract Signing

Applicants who passes through the above stages will be approved and provided with:
- A Letter of Award and
- An NRF-SAASTA grant-funding contract.
- All resources must be submitted to NRF-SAASTA for approval and editorial processes. Resources should be submitted to Thembi Mdlalose (thembi@saasta.ac.za).

ANNEXURE A: PROPOSAL APPLICATION AND SUBMISSION FORM

State in detail, a contingency plan to ensure successful implementation of activities should unforeseen circumstances e.g. strikes, COVID 19 lockdown, some staff related issues, etc.

FUNDING REQUEST FOR LTSM RESOURCE DEVELOPMENT

Reasoning for costing each line item separately and guidelines for completing the budget;

- Extensive detail should be provided per line item to explain reasonability of costs and to provide a clear indication on how the total amount per line item had been calculated.

- Ensure all calculations are included in the final amount and that the total amount is accurate.

- Feel free to contact the LTSM Team at NRF-SAASTA if you are unsure where a line item belongs.

- Refer to Acceptable Proof of Expenditure on the NRF-SAASTA provided guideline document to you with the grant contract

LTSM RESOURCE DEVELOPMENT FUNDING REQUEST BUDGET - 2021

NB: NRF-SAASTA reserves the right to request three comparative quotes from you for in-house services. If the in-house service is more expensive than other suppliers' prices, the cheaper supplier must be utilised.

Please take note of the Special Conditions below this table when drawing your budget.

	Name of Organization		
	Note: Add in extra lines if necessary		
1	PROFESSIONAL COSTS	Cost per line item	Total
1.1		R	R
1.2		R	
2	STAFF TRAVEL & SUBSISTENCE	Cost per line item	Total
2.1		R	R
2.2		R	
3	CONSUMABLES	Cost per line item	Total
3.1		R	R
3.2		R	
4	PROJECT ACTIVITY-BASED ADMIN AND SUPPORT	Cost per line item	Total
4.1		R	R
4.2		R	
5	ADMIN AND SUPPORT	Cost per line item	Total
5.1		R	R
5.2		R	
6	LIST ALL IN-HOUSE SERVICES (services (e.g. film production team services) & assets (e.g. video cameras) that belong to your organization)	Cost per line item	R
6.1		R	R
6.2		R	
		SUB TOTAL:	
7	MANAGEMENT FEE: Maximum 10 %	Indicate what % you require	R
		TOTAL AMOUNT (SUB TOTAL + MANAGEMENT)	**R**

NB: PLEASE CHANGE THE ITEMS AS PER YOUR NEEDS

NRF-SAASTA SPECIAL CONDITIONS

Rates Schedule: In terms of <u>NRF approved rates</u> the rates schedule remains unchanged for the duration of the contract with the NRF. No changes, extensions, or additional ad hoc costs to the rates as set out below, will be accepted:

1. Travel costs must be charged up to a maximum of **R3.61 per km** when using a private vehicle. A ***log sheet/travel claim*** indicating the detail of the trip must be included.

2. A management fee of up to a *maximum of 10%* of the total of the budgeted expenses in the proposal will be allowed. Please note that this fee must be calculated again in the financial report at the end of project implementation, based on actual expenses, by adding up all actual expenses and then, calculating 10% of those total actual expenses. The budget must clearly show how the 10% management fee was calculated at proposal and also at financial reporting stages.

3. **NO CAPITAL EQUIPMENT WILL BE FUNDED THROUGH THIS FUNDING (i.e. Computers, Printers etc.)**

BUDGET SUBMISSION REQUIREMENTS

1. Calculations must be detailed and <u>submitted on the prescribed template</u>.

2. If professional services are needed to compile reports, the amount must be covered from your already calculated management fee. NRF-SAASTA will not pay additional amounts for professional services used by the grant holder to compile their report. This item falls within the management fee in the approved budget and not anywhere outside of this item.

3. **Funding Allocation Ceiling/award cap:** For determining allocation of funding support, NRF-SAASTA reserves the right to determine the funding ceiling for each LTSM developer utilising the activities and funding application request in this section.

4. As LTSM development aims to promote as many resources as possible across the different institutions, proposals setting out the costing per activity, depending on the intended resource. Only one proposal per institution will be considered. Different departments need to collaborate to produce one proposal on various resources.

5. **Commitment of funding to the Contract:** The NRF-SAASTA, when issuing the written and approved Letter of Acceptance together with the contract, guarantees that the funding is available as per the value stated in the contract.

6. Budget proposed In terms of the contract should be in South African Rands

7.   Prices and items in the proposal should be fully inclusive of all costs including VAT.

APPLICANT'S RETURNABLE DOCUMENTS CHECKLIST

Detail of document		Tick where applicable
Grant Call and Proposal submission Form	COMPULSORY	
Funding request template (Budget)	COMPULSORY	
CSD Report (to be attached)	OPTIONAL	
CVs for the project leaders (to be attached)	COMPULSORY	
ELIGIBILITY OF THE INSTITUTIONS		
Name of institution		

ELIGIBILITY CRITERIA	
All documents as set out in the Returnable Document List have been submitted	**YES / NO**

I confirm that I have satisfied myself as to the correctness and validity of my offer/proposal in response to this Grant Call; that the price(s) and rate(s) quoted cover all the goods, works and services specified in the Grant Call; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me in terms of this Grant Call as the principal liable for the due fulfilment of the subsequent contract if awarded to me.
I declare that I have had no participation in any collusive practices with any potential grant holder or any other person regarding this or any other proposal.
I certify that the information furnished in these declarations is correct and I accept that the NRF-SAASTA may reject the proposal or act against me should these declarations prove to be false.
I confirm that I am duly authorised to sign this offer/proposal response.

NAME (PRINT)	
CAPACITY	
SIGNATURE	
DATE	