



# AIMS

**African Institute for  
Mathematical Sciences  
SENEGAL**

## Academic Calendar for the AIMS Senegal 2023-2024 Master's Program

### Skills (Core) Courses

Block 1 October 09 – October 27	Block 2 October 30- November 17	Block 3 November 22 – December 11
<b>Course I:</b> Computing with python, Dr Franck Yovo, Faculté des Sciences et Techniques; Université des Sciences Technologies, Ingénierie et Mathématiques, Benin	<b>Course I:</b> Physical problem solving, Dr Laure Gouba, ICTP, TRIESTE, Italy	<b>Course I:</b> ODE and Applied PDEs, Pr Stephen Moore, University of Cape Coast, Ghana
<b>Course II:</b> Mathematical Logic, Pr Adrien Deloro, Sorbonne Université, France	<b>Course II:</b> Probability and Statistics with R computing, Pr Abdou Ka Diongue, Gaston Berger University, Senegal	<b>Course II:</b> High dimensional data analysis, Pr Sophie Dabo Niang, Université de Lille, France
<b>Course III:</b> Mathematical Problem Solving, Dr Audace Amen Vioutou, Johannesburg University, South-Africa	<b>Course III:</b> Linear algebra and Applications, Dr Bernadette Faye, UADB, Senegal	<b>Course III:</b> Classical Mechanics, Pr Saul Beceiro, Michigan State University, USA
<b>Course IV:</b> English and Personal development	<b>Course IV:</b> English and Personal development	<b>Course IV:</b> English and Personal development

### Reading Week/Catch up/ Christmas and New Year Holiday)

### Review phase Courses

Block 1 January 08 – January 26	Block 2 January 29 – February 16	Block 3 February 19 - March 08
<b>Course I:</b> Topology and functional Analysis, Pr Ngalla Ndjitte, Gaston Berger University, Senegal	<b>Course I:</b> Numerical Optimization, Pr Marie Postel, Sorbonne université, France	<b>Course I:</b> Measure and integration, Pr Aliou Diop, Gaston Berger University, Senegal
<b>Course II:</b> Computational Finance with Python, Dr Djiby Fall, CESAG, Senegal	<b>Course II:</b> Data Base (SQL, noSQL, Hbase & Security), Dr Mèton Mèton ATINDEHOU, Nyquist-Shannon, Cotonou, Benin	<b>Course II:</b> Graph Theory and Applications, Pr Hassane Bouizahir, Ibn Zohr University, MOROCCO
<b>Course III:</b> Machine learning (supervised, unsupervised), Dr Claire A. David, York University, France	<b>Course III:</b> Statistical Mechanics, Pr Silvio Franz, Université Paris-Saclay, France	<b>Course III:</b> Big data and Data mining, Pr Ndeye Niang Keita, Conservatoire National des Arts et Métiers, France
<b>Course IV:</b> Post quantum cryptography, Pr Djiby Sow, Cheikh Anta Diop University Dakar, Senegal	<b>Course IV:</b> Computer security 1, Network Security, Dr Cheikh Ka, Cyber Security Senior Consultant, UCAD and l'UPM, Senegal	<b>Course IV:</b> Computer security 2 : Auditing, Computer Forensics and Investigation, Dr Oumar Diao, Consultant senior en cybersécurité, France
	<b>Course V:</b> Dynamical systems and Applications, Pr Agostino Merico, ZMT, Leibniz, Germany	

**Reading Week**

<b>Reading Week</b>		
<b>Block 4 March 18 – April 05</b>	<b>Block 5 April 08 – April 26</b>	<b>Block 6 April 29– May 17</b>
<b>Course I:</b> Algebraic Topology and Applications, Pr Franck Newman, University of Leicester	<b>Course I:</b> Climate Dynamics, Pr Mouhamadou Bamba Sylla, AIMS Rwanda	<b>Course I:</b> Case studies from industry in Big data, Pr Arnosti, Michigan state Canada
<b>Course II:</b> Computer Security 3, Ethical Hacking, Pr Mike Thomson, University of Health and Allied Sciences, USA	<b>Course II:</b> Computer Security 4 Mathematical Model for Network Security, Dr Nandi Leslie, US. Army Research Laboratory and Reyton Cie, USA	<b>Course II:</b> Web development and Android, Dr Osias Noel N. F. Tossou, Manobi-Africa, Benin
<b>Course III:</b> Mathematical Methods for Climate Change, Dr Moustapha Tall, AIMS Rwanda	<b>Course III:</b> Quantum Mechanics and Quantum Computing, Pr Des Johnston, Heriot-Watt University, North Ireland	<b>Course III:</b> Natural Language Processing, Dr Elvis Ndah, Ghent University, Belgium
<b>Course III:</b> Bio-Mathematics with real data application, Dr Shaibu Osman, University of Health and Applied Sciences, Ghana	<b>Course IV:</b> Deep Learning and Neural Network, Dr Mamadou Bousso, Iba Der Thiam University, Thies, Senegal	<b>Course IV:</b> Case studies from industry in C.Security, Dr Moussa Diedhiou, LACGAA, UCAD, Senegal Dr Thiam Fall, ISM Senegal Dr Cheikh Ka, Cyber Security Senior Consultant, UCAD and l'UPM, Senegal
	<b>Course IV:</b> Differential Geometry, Pr Aissa Wade, Penn State University, USA	
<b>Research Essay Phase</b>		
<b>29 Apr - 30 June 2024</b>	<b>Research Phase</b>	
<b>08-12 July 2024</b>	<b>Oral Defense</b>	
<b>End of July 2024</b>	<b>Graduation</b>	