FACULTY OF AGRICULTURE,
ENGINEERING & NATURAL SCIENCES

School of Military Science

Prospectus 2025

UNAM

FACULTY OF AGRICULTURE, ENGINEERING & NATURAL SCIENCE

SCHOOL OF MILITARY SCIENCE

NOTE

Regulations and curricula for 2025 may be amended without prior notice. General regulations and information appear in the **General Information and Regulations and Fees Prospectus**.

Although the information contained in this School prospectus has been compiled as accurately as possible, Council and Senate accept no responsibility for any errors and omissions, which may occur. The University retains the right to amend any regulation or condition without prior notice.

The information is correct up to 30 October 2024.

The fact that particulars of a specific course or field of study have been included in this School Prospectus does not necessarily mean that such programme, subject, or course will be offered in 2025 or any consecutive year.

This School Prospectus must be read in conjunction with the **General Information and Regulations and Fees Prospectus**.

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SCHOOL PREAMBLE

Vision

The vision of the **School of Military Science** is to be a Centre of Excellence in developing knowledge and expertise in the fields of military history and military law, aeronautical science, nautical science and security and strategic studies in Namibia and the SADC Region.

Mission

The **School of Military Science** is mandated to equip graduates with requisite skills and offer solid preparation for professional careers in military leadership as well as in public environment in the areas of commanding, analysis, research, consulting and analysis in the defence and national security.

The school fulfils the following functions in order to carry out its mandate:

- equip graduates with appropriate knowledge and skills and prepare them for a variety of careers according to national, regional and international needs
- carry out innovative research and disseminate knowledge that will benefit the national, regional and international contexts
- encourage growth in the adoption and use of contemporary military and civilian techniques and technologies for the benefit of the Namibian Defence Force
- provide variety of research and advisory services to the Ministry of Defence
- foster relationships with the stakeholders and industrial partners
- contribute to the social and economic development of Namibia

ACADEMIC YEAR 2025

UNAM CORE DATES	
DATE	**GENERAL CORE DATES**
	FIRST SEMESTER
09 January	University Open
21 January	Academic staff resumes office duties
17 April	FIRST SEMESTER BREAK commences for students (Until 23 April)
17 April	Vacation School commences for distance students (Until 28 March)
24 April	Lectures resume after the FIRST SEMESTER BREAK
27 May	Institutional Holiday
11 July	End of FIRST SEMESTER
14 – 18 July	MID-YEAR BREAK
DATE	**SECOND SEMESTER**
25 August	SECOND SEMESTER BREAK for students commences (Until 29 August)
25 August	Vacation School commence for distance students (Until 29 August)
01 September	Lectures resume after SECOND SEMESTER BREAK
05 December	End of SECOND SEMESTER
12 December	End of ACADEMIC YEAR
DATE	**2026 ACADEMIC YEAR**
08 January	University opens for 2026 academic year
20 January	Academic staff resumes office duty for 2026 academic year

DATE	**NEW CURRICULUM TRANSFORMED PRGRAMMES (5 weeks core and 12-week semesters) OLD CURRICULUM PROGRAMMES/SCHOOL READINESS PROGRAMME (12-week semesters) FIRST SEMESTER**
27 January	Lectures commence for CORE SEMESTER – New Curriculum Students (Until 28 February)
17 February	Lectures commence for FIRST SEMESTER – Old Curriculum Students (Until 21 May)
03 March	Lectures commence for FIRST SEMESTER – New Curriculum and Readiness Programme Students (Until 6 June)
21 May	Lectures end for FIRST SEMESTER – Old Curriculum Students
27 May	First Opportunity Examinations commence – Old Curriculum Students (Until 16 June)
06 June	Lectures end for FIRST SEMESTER – New Curriculum and Readiness Programme Students
11 June	First Opportunity Examinations commence – New Curriculum Students (Until 21 June)
16 June	First Opportunity Examinations end – Old Curriculum Students
17 June	Second Opportunity Examinations commence – Old Curriculum Students (Until 04 July)
20 June	First Opportunity Examinations end – New Curriculum Students
25 June	Second Opportunity Examinations commence – New Curriculum Students (Until 8 July)
28 June	First Opportunity Examinations end – New Curriculum Senior Students of Professional Programmes
04 July	Second Opportunity Examinations end – Old Curriculum Students
01 July	Second Opportunity Examinations commence – New Curriculum Senior Students of Professional Programmes (Until 10 July)
08 July	Second Opportunity Examinations end – New Curriculum Students
DATE	**NEW CURRICULUM TRANSFORMED PRGRAMMES (5 weeks core and 12-week semesters) OLD CURRICULUM PROGRAMMES/SCHOOL READINESS PROGRAMME (12-week semesters) SECOND SEMESTER**

21 July	Lectures commence for SECOND SEMESTER – Old and New Curriculum, and Readiness Programme Students (Until 18 October)
17 October	Lectures end for SECOND SEMESTER – All Students
22 October	First Opportunity Examinations commence – New Curriculum (Until 4 November) and Old Curriculum and Readiness Programme Students (Until 10 November)
04 November	First Opportunity Examinations end – New Curriculum Students
05 November	Second Opportunity Examinations commence – New Curriculum Students (Until 14 November)
10 November	First Opportunity Examinations end – Old Curriculum and Readiness Programme Students
11 November	Second Opportunity Examinations commence – Old Curriculum and Readiness Programme Students (Until 28 November)
14 November	Second Opportunity Examinations end – New Curriculum Students
28 November	Second Opportunity Examinations end – Old Curriculum and Readiness Programme Students
DATE	**PROFESSIONAL PROGRAMMES FIRST SEMESTER**
13 January	Lectures commence for FIRST SEMESTER – 16-week semesters Professional Programmes students (Until 14 May)
20 January	Lectures commence for CORE SEMESTER – Professional Programmes Second-year students, including Engineering (Until 28 February)
20 January	Lectures commence for FIRST SEMESTER – Senior Engineering Students (Until 8 May)
27 January	Lectures commence for CORE SEMESTER – New Curriculum First-year students (Until 28 February)
28 February	Lectures end for CORE SEMESTER – All New Curriculum Students
03 March	Lectures commence for FIRST SEMESTER – First- and Second-year Professional Programme Students (Until 13 June)
08 May	Lectures end for FIRST SEMESTER – Senior Engineering Students
13 May	First Opportunity Examinations commence – Senior Engineering Student (Until 27 May)
14 May	Lectures end for FIRST SEMESTER – 16-week semesters Professional Programmes students
19 May	First Opportunity Examinations commence – 16-week semesters Professional Programmes students (Until 03 June)
27 May	First Opportunity Examinations end – Senior Engineering Students
28 May	Second Opportunity Examinations commence – Senior Engineering Students (Until 11 June)
03 June	First Opportunity Examinations end – 16-week semesters Professional Programmes students
31 May	Second Opportunity Examinations end – Senior Engineering Students
04 June	Second Opportunity Examinations commence – 16-week semesters Professional Programmes students (Until 13 June)
11 June	Second Opportunity Examinations end – Senior Engineering Students
13 June	Lectures end for FIRST SEMESTER – First and Second-year Professional Programme Students
13 June	Second Opportunity Examinations end – 16-week semesters Professional Programmes students
17 June	First Opportunity Examinations commence – First and Second-year Professional Programme Students (Until 30 June)
30 June	First Opportunity Examinations end – First and Second-year Professional Programme Students
01 July	Second Opportunity Examinations commence – First and Second-year Professional Programme Students (Until 08 July)
08 July	Second Opportunity Examinations end – First and Second-year Professional Programme Students
DATE	**PROFESSIONAL PROGRAMMES SECOND SEMESTER**
30 June	Lectures commence for SECOND SEMESTER – 16-week semesters Professional Programmes students (Until 31 October)
21 July	Lectures commence for SECOND SEMESTER – Senior Engineering Students (Until 31 October)

28 July	Lectures commence for SECOND SEMESTER – First and Second-year Professional Programme Students (Until 31 October)
31 October	Lectures end for SECOND SEMESTER – All Professional Programme Students
05 November	First Opportunity Examinations commence – All Professional Programme Students (Until 18 November)
18 November	First Opportunity Examinations end – All Professional Programme Students
19 November	Second Opportunity Examinations commence – All Professional Programme Students (Until 28 November)
28 November	Second Opportunity Examinations end – All Professional Programme Students

DUE DATES FOR THE 2025 ACADEMIC YEAR

17 January	Last day to apply to write promotional examination
17 January	Last day to apply for the retention of continuous assessment (CA) marks
24 January	Last day to approve promotional examinations applications by Schools
31 January	Last day to cancel core semester modules with 100% credit – New curriculum students
03 February	Last day to apply for remark for the second semester and year modules of First and Second opportunity examinations of November 2024)
09 February	Last day for application of module(s) exemptions – New Curriculum Students
09 February	Last day for approval of module(s) and qualification changes – New Curriculum Students
14 February	Last day to cancel core semester modules with 50% credit – New curriculum students
16 February	Last day for application of module(s) exemptions – Senior Students
16 February	Last day for approval of module(s) and qualification changes – Senior Students
21 February	Last day to cancel core semester modules – New curriculum students
21 February	Last day to cancel Semester 1 and year modules with 100% credit – Old curriculum students
23 February	Last day for approval of module(s) exemptions – New Curriculum Students
08 March	Last day for approval of module(s) exemptions – Senior Students
14 March	Last day to cancel first semester modules with 50% credit – Old curriculum students
14 March	Last day for approval of module(s) and qualification mode changes of Senior students
15 March	Last day to cancel first semester and year modules with 100% credit – New curriculum students
14 April	Last day to cancel first semester and year modules with 50% credit – New curriculum students
28 April	Last day to cancel FIRST SEMESTER MODULES – All students.
28 April	Last day to change offering types
07 July	Last day to cancel year modules with 50% credit – All students
01 August	Last day to apply for remark of first semester modules
11 August	Last day to cancel second semester with 100% credit – All students
01 September	Last day to cancel second semester with 50% credit – All students
01 September	Last day to submit outstanding documentation
29 September	Last day to change offering types
29 September	Last day to cancel second semester and year modules – All Students
31 October	Last day to submit Theses and Dissertations for examinations – Higher Degree Students

A. STRUCTURE AND PERSONNEL OF THE FACULTY

A.1. OFFICE OF THE EXECUTIVE DEAN

EXECUTIVE DEAN

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B.1. OFFICE OF THE ASSOCIATE DEAN

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B.2. ACADEMIC DEPARTMENTS

DEPARTMENT OF MILITARY STUDIES

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Head of Department & Senior Lecturer:	Dr. G.L Nguluwe: DLGS (UNAM), BPMM (Hons.) (UNAM), MPA (UNAM), PhD (University of South Africa)
Senior Lecturer	Dr. R. O Iroanya: B. Sc, (Nnamdi Azikiwe University, Awka, Nigeria); BA. (Hons) (University of Pretoria, MSocSci, EHESS, Paris); &(MASci, Linköping University, Sweden); (MSS), (University of Pretoria, PhD (University of Pretoria, South Africa)
Senior Lecturer:	Dr. S Ndapulamo: DLGS (UNAM), BPMM (Hons.) (UNAM), MPA (UNAM), PhD (University of South Africa)
Senior Lecturer:	Dr. L. V. Shaamhula: Bsc Population Studies and Geography (UNAM), MA (Northwest University), PhD (Stellenbosh University).
Lecturer:	Ms. M. M. Mpuka: MSc (University of Leicester UK), PDHE (UNAM), MPhil (University of Pretoria, SA)
Lecturer:	Ms. C. B. Simataa: Bsc (Hons) (UNAM), PDHE (UNAM), MSc. (JSS University, India)
Lecturer:	Major A. Justinu. BSc (Army) (Hons) (UNAM), MA (UNAM)
Staff Development Fellow:	Mr. B. T. Tshelakgosi, Bsc. (Hons) (UNAM)

DEPARTMENT OF OF AERONAUTICS AND ASTRONAUTICS

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Head of Department:	Mr. J.S. Anghuwo; BSc Air Force Science (Greece); MEng Space Technology Applications (Beijing,China)
Lecturer:	Mr. P. Imanuel; PDHE (UNAM); DIP Aviation Safety (IATA); BSc (University Saad Dahlab of Blida (Algeria); MSc (University Saad Dahlab of Blida (Algeria)
Lecturer:	Dr W.P.Kiburu; BSc Physics (Hons) (JKUAT, Kenya); MAS (ERAU, USA); PhD (Azteca University,Mexico), DBA (UCN, Nicaragua)
Staff Development Felllow:	Mr Sam S Nangolo; BSc. in Military Science (Aeronautical) Honours (UNAM)

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Head of Department:	Mr. A.P. Geyser, BSc. Military Science (SUN, South Africa), MA, Military Geography (SUN, South Africa).
Senior Lecturer:	Vacant
Lecturer:	Mr A. Shitayi, BSc Marine Engineering (HNU, Greece), MSc Maritime Education and Training (WMU, Sweden)
Lecturer:	Mr. A.P. Geyser, BSc. Military Science (SUN, South Africa), MA, Military Geography (SUN,South Africa).
Lecturer:	Maj. T. Kathindi, BSc Military Science and Engineering (MMAA, Russia) MSc, Materials Science and Engineering (NUST ''Misis'', Russia).
Staff development fellow:	Lt (N) J. Ndiwakalunga, BSc Nautical Science, Honours (UNAM)
Staff Development Fellow:	Mr. J. Kapiti; BSc. Nautical Science, Honours (UNAM)

C. QUALIFICATIONS OFFERED BY THE SCHOOL

The School may award the following degrees:

C.1. UNDERGRADUATE PROGRAMMES

IN 2023 THE FIRST YEAR STUDENTS WILL REGISTER FOR THE FOLLOWING QUALIFICATIONS

CODE	DEGREE	MINIMUM DURATION
34BSAS	Bachelor of Science in Aeronautical Science Honours	4 years full-time
34BSMG	Bachelor of Science in Military Geography	3 years full-time
34BSNS	Bachelor of Science Nautical in Science	3 years full-time

C.2. POSTGRADUATE PROGRAMMES

POSTGRADUATE PROGRAMME		
34 PDSS	Postgraduate Diploma in Security and Strategic Studies	1 year full-time
34 MASS	Master of Arts in Security and Strategic Studies	2 years full-time

C.3. GENERAL REGULATION PERTAINING TO UNDERGRADUATE STUDIES

C.3.1. DURATION OF STUDY

All Bachelor of Science degree programmes cannot be completed in less than three (3) years. All Bachelor of Science Honours degree programmes cannot be completed in less than four (4) years. All Bachelor of Science Honours degrees must be completed within six (6) years of full-time study, unless special permission is granted for this period to be exceeded.

C.3.2. EXEMPTIONS

UNAM will give exemptions for equivalent courses taken at other tertiary institutions but the exemptions shall not exceed 50% of the programme of the Bachelor of Science degree. See the General Information & Regulations Prospectus and Fees Prospectus.

C.3.3. CLASS ATTENDANCE

In order to be admitted to examinations, students are required to attend at least **80%** of the lectures and to complete the required elements that make up the continuous assessment mark. Refer to the **General Information and Regulations Prospectus**.

C.3.4. PRACTICALS

Attendance of practical sessions is compulsory.

C.3.5. CURRICULUM

C.3.6. COURSES, CREDITS AND CONTACT HOURS

One contact hour is equivalent to one **(1)** lecture period on the timetable of the School of Military Science.
A **full semester course** is taught at four **(4)** contact hours per week over one semester, i.e. **56** contact hours per semester.
A **half - course** is taught at two **(2)** contact hours per week over one semester, i.e. **28** contact hours per semester.
A **double-course** extends over one academic year at four **(4)** periods per week and terminates in an examination at the end of the year. (For the composition of a curriculum a double module is regarded as equal to two courses)
Refer to the relevant programmes (to determine the credits and contact hours of any particular course).

C.3.7. CURRICULUM COMPILATION

To be awarded a Bachelor's degree by the School, a student must pass all the courses prescribed for each curriculum combination of all the degree programmes. A student may be required to select the courses offered by a specific department, in accordance with Faculty of Agriculture, Engineering and Natural Sciences and School regulations.

C.4. STUDENT REGISTRATION

C.4.1. UNIVERSITY CORE CURRICULUM

All students register for the following courses:

YEAR	CODE	COURSE NAME
1	U34O3FS	Skills potfolio
1	U3583AL	Academic Literacy I
1	U3420CN	National and Global Citizenship
1	U3583DD	Digital Literacy
1	U3420EM	Ethics and morality
1	U3520LP	LeadershipSkillis
2	U3420PJ	Project management
2	U3420RT	Entrepreneurship
2	U3420SE	Sustainability and Environmental Awareness
2	U3520TH	Critical Thinking
2	U3683LB	Academic Literacy II
2	W3600MG	CWIE preparation: 8
3	W37001c	Workplace attachment

C.4.2. UNIVERSITY CORE CURRICULUM COURSE DESCRIPTIONS

YEAR 1

CORE SEMESTER ONE COURSES

U3403FS	**SKILLS PORTFOLIO**
Module Title:	**SKILLS PORTFOLIO**
Module Code	U3403FS
NQF Level	4
Notional Hours	N/A
Contact Hours	None
Additional learningrequirements	None
NQF Credits	NCB
(Co-requisites)/Pre-requisites	None
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 1

Module Content: UNIT 1: Attitude and Motivation
Focus on students becoming more aware of their own personal attitudes, behaviors and interests through the self-reflective process. Identify that negatively impact the academics as well as exploring new approaches to dealing with the negative factors. Class attendance and participation, procrastination, self-reliance, discipline, accountability and getting into healthy habits
UNIT 2: Academic Planning and Goal Setting
Reassessing needs and values to identify the steps required to reach a personal vision. Proactive approach towards learning, Self-regulated learning, and realistic personal and academic goal setting. Being receptive to learning and exploring who you are and who you could become through the development of greater knowledge and awareness about yourself.
UNIT 3: Learning styles
Focusing on understanding the students' personal approach to learning through the introduction to different learning styles, the dynamics of the learning process, preferred learning styles and strategies that describe and strengthen their learning style.
UNIT 4: Study Methods and Skills
Creating healthy study habits, learning styles and techniques, effective study methods and skills including note taking, memory and reading, public speaking, and critical thinking. Identify ways to avoid procrastination
UNIT 5: Time Management
The importance of Time Management; using and organizing student time effectively, time as a precious commodity; using and organizing student time effectively, planning, decision making and prioritization, setting boundaries and saying No, building a system and diligently following it.
UNIT 6: Assessment Preparation
Basic test taking and Examination preparation, organizing academic workload, setting of daily realistic study goals, use of diagrams and flowcharts, managing and using time effectively during assessment, the importance of staying physically active, the importance of study groups, discipline during examination.
UNIT 7: Mental well-being
Understanding mental health in relation to academics, signs and indicators of poor mental health, commonly experienced mental health challenges at UNAM, psychosocial stressors as triggers for mental health problems, perpetuating factors of mental health problems, where and how to seek professional help, coping strategies; for self and others, how to maintain and promote holistic mental wellbeing.
UNIT 8: Interposal Communication
Effective communication skills, Verbal and Non-verbal communication, listening skills, problem solving, assertiveness, negotiation skills, practicing empathy in communication, self-confidence, receptiveness to feedback, building trust, teamwork, leadership.
UNIT 9: Financial matters and management
Assist students with financial literacy in relation to student life, budgeting, discuss available finance options and assistance, equipping students with skills to seek financial assistance and managing their financial resources.
UNIT 10: Student Violence
diverse types of violence that may cause or are intended to cause harm which can be physical, psychological, sexual, verbal or passive in nature. The contrasting individual roles in violence on campuses, the myths, forms, and consequences of violence, and how to stop and prevent violence.
UNIT 11: Career Planning and Development
Defining and selecting career goals and exploring different strategies in achieving identified goals, continued soft skills training, decision making, interests, personality, aptitudes, and abilities as one progresses through life.
Learning and Teaching Strategies/Activities
Lectures: Presentation on theoretical foundations and concepts of the Skills Portfolio module
Discussion forums (seminars): Reflecting on own contexts, experiences and sharing perspectives
Collaborative learning: Group learning and activities
Inquiry: Carrying out research to explore and understand scenarios and problems relating to self
Portfolio writing: Writing reflective learning journals related to the Skills Portfolio module
Presentations and demonstrations: Practical presentation of outcomes of various and skills utilized.
Student Assessment Strategies Reflective journal/ portfolio

U3583AL	ACADEMIC LITERACY I
Module Title:	**ACADEMIC LITERACY I**
Module Code	U3583AL
NQF Level	5
Notional Hours	80
Contact Hours	4 lecture hours per week for one semester
Additional learning requirements	None
NQF Credits	8
(Co-requisites)/Pre-requisites	None
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 1

Module Content: The module will cover study skills, reading, listening, speaking and writing, referencing, language usage and text organisation.

U3420CN	NATIONAL & GLOBAL CITIZENSHIP
Module Title:	**NATIONAL & GLOBAL CITIZENSHIP**
Module Code	**U3420CN**
NQF Level	**4**
Notional Hours	**20**
Contact hours	1 lecture hour per week for one semester
AdditionalLearning Requirements	None
NQF Credits	**2**
(Co-requisites)/Prerequisite	None (University Core Module)
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 1

Module Content: UNIT 1: Constitution and its Importance: What is a constitution; Functions of a constitution; What it contains; Constitution and democracy

UNIT 2: Global Citizenship: The meaning of global citizenship; Importance of global awareness; World issues of concern to global citizens.

UNIT 3: Civic Engagement: What do we mean by civic engagement; Dimensions of civic engagement; Indicators of civic engagement; Promoting civic engagement. **UNIT 4: Globalization:** Understanding globalization; Cultural construction of neoliberal globalization; Major players; Major domains; Major Issues; Futures of Globalization. **UNIT 5: Intercultural Communication:** Dealing with difference; Levels of culture; Stereotypes and generalizations; Intercultural communication Processes. **UNIT 6: Sustainable Development Goals and individual action:** Introduction to SDGs; Contributing to achievement of SDGs through action.

Student Assessment Strategies: Assessment will be based on Continuous Assessment.

U3420SE	SUSTAINBILITY & ENVIRONMENTAL AWARENESS
Module Title:	**SUSTAINABILITY & ENVIRONMENTAL AWARENESS**
Module Code	U3420SE
NQF Level	4
Notional Hours	20
Contact hours	2 lecture hours per week for one semester whereby the first 3 weeks is followed by mini-project for the remainder of the semester (total of 10 hours on this aspect)
Mode of Delivery	Blended: Face to face and Online
Additional Learning Requirements	Mini-project to create awareness, champion environmental cause or address an environmental issue in their immediate environment.
NQF Credits	2
(Co-requisites)/Prerequisite	None
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 1

Continuous assessment of **100%** - Assessment will be done by completing online pop-up quizzes; and developing their online portfolios of personal action as response to tasks assigned in class.

Module Content:Sustainability: finite nature of elements constituting the Earthly environment, resilience and fragility of the natural environment; three distinct perspectives on sustainability: sustained yield of resources, sustained abundance and diversity of species and ecosystems, sustained economic and social development key themes in defining sustainability: (i) the human perspective, (ii) considerations of fairness and (ii) issues of scale concepts of inter- and intra-generational equity (fair and just distribution of resources), sustainable community. **Natural resources**: role of soil, water and minerals in supporting life on Earth; health and interdependence of ecosystems within the biosphere; dependence of human beings on natural resources for sustenance and livelihoods; **Solutions to environmental sustainability challenges:** simple inexpensive interventions aimed at reducing wastage of resources and generation of wastes through exhaustive use, reuse, recycling and refurbishing of products.

Student Assessment Strategies : The module will be evaluated using 100% continuous assessment. Student will be assessed based on class discussions and debates on striking a balance between socio-economic development and environmental sustainability citing real life major national projects. Students will be placed in groups based on a logical criterion that ensures mixing interspersing of students from academic discipline and programmes in each group. Groups will be expected to take on a particular environmental issue plaguing their immediate surroundings to highlight and champion. Each group will tackle one issue through either clean-up campaigns, awareness raising campaigns, community education campaigns, advocacy or devising a simple solution to the problem. A minimum pass mark for the module is 50%.

U3583DD	DIGITAL LITERACY
Module Title:	**DIGITAL LITERACY**
Module Code	U3583DD
NQF Level	5
Notional Hours	80
Contact hours	4 Lecture hours per week for one semester
Additional Learning Requirements	None
NQF Credits	8
(Co-requisites)/Prerequisite	None
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 1

Module Content: Digital Proficiency: ICT-based devices (laptops, tablets, smartphones, desktop computers, digital instruments and equipment); a mouse, keyboard, touch screen, voice control and other forms of input; screens, audio headsets and other forms of output; digital capture devices; University digital learning systems and a range of personal digital services such as social media, cloud storage services, sharing sites. **Digital Productivity:** Basic productivity software (text editing, presentation, spreadsheets, image editing); email and other digital communication services; Internet or cloud or institutional shared spaces for Organising, managing and backing up digital files; software/apps and services suitable for learning-related tasks; digital tools fit learning and managing learning time. **Information Literacy:** search engines, indexes or tag clouds; wikis, blog posts, scholarly journals, e-books and the open web; file spaces and folders, bookmarks, reference management software and tagging; copyright, and digital citizenship issues **Data and Media Literacy:** Digital data using spreadsheets and other media; data security and privacy; digital media messages – text, graphics, video, animation, audio and multimedia. **Digital Creation and Innovation:** digital materials (video, audio, stories, presentations, infographics); new digital tools for learning in digital settings. **Digital Communication, Collaboration and Participation**: digital communication; differences between media, norms of communicating in different spaces; false or damaging digital communications; collaborative tools and online environments; online networks **Digital Learning and Development:** digital learning opportunities; digital learning resources; digital tools/materials for organising, planning and reflecting on learning (mind-mapping, note-taking, e-portfolio/ learning journal/ blog). **Digital Identity and Wellbeing:** online profiles for different networks (personal, professional, academic); digital reputation; managing personal data and privacy; digital CV or portfolio of work; digital technologies for personal development; online etiquette; wellbeing and safety online; internet addiction; cyberbullying and other damaging online behaviour. **Individual assessment tasks:** Assignment: information literacy assignment; Test x 2: **Practical:** Digital proficiency, Data and Media literacy: **No written examination**

YEAR 2

U3683AL	ACADEMIC LITERACY II
Module Title:	**ACADEMIC LITERACY II**
Module Code	U3683LB
NQF Level	6
Notional Hours	80
Contact hours	4 lecture hours per week for one semester
Additional Learning Requirements	None
NQF Credits	8
(Co-requisites)/Prerequisite	U3583AL
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 2

Module Content: The module is designed for students enrolled in a bachelor's degree, which requires them to do basic research, read and listen to specific academic material, produce specific written texts and give academic presentations. The module thus, focuses on enhancing academic reading, academic vocabulary, writing, listening and speaking.
Student assessment strategies: The module will be continuous assessment based. Assessment will include written tests, individual and group assignments, portfolio assessments and oral presentations.

U3420PJ	PROJECT MANAGEMENT SKILLS
Module Title:	**PROJECT MANAGEMENT SKILLS**
Module Code	U3420PJ
NQF Level	5
Notional Hours	20
Contact hours	2 lecture hours per week for the first two weeks and field-based practical for the remaining four weeks.
Mode of Delivery	Blended: face-to-face and online
Additional Learning Requirements	The field-based practical to be undertaken in the immediate environment of the student.
NQF Credits	2
(Co-requisites)/Prerequisite	None
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 2

Module Content: This module consist of two components: ***The first component*** is a two weeks theory covering the **concepts** (project vs programme) and the **phases of project life cycle (project initiation and planning:** work breakdown, development of SMART indicators, estimation of activity duration, efforts, and costs, scheduling of activities, identification of critical path, setting of milestones, stakeholder identification and categorization, stakeholder engagement, initial risk identification, and development of the initial project plan; **project implementation & management:** forming the project team, managing people, resources allocation, responsibilities allocation, quality assurance, leadership style and project liaison; **project monitoring and control:** progress reporting and communication, quality control, time management, budget and cost management, risk management and mitigation; **project closure and evaluation:** project evaluation, project auditing process and the closure process, and final project report). ***The second component*** is a four-week **field-based practical** where students participate in a real-life project in their immediate environment. Students are strictly required to apply the project management approach during the field-based practical.
Student Assessment Strategies: Student assessment will be 100% continuous assessment based on weekly project progress reports (50%) and the final project report (50%). A minimum pass mark for the module is 50%.

U3420TH	CRITICAL THINKING
Module Title:	**CRITICAL THINKING**
Module Code	U3420TH
NQF Level	5
Notional Hours	20
Contact hours	1 hour practical session per week interfaced with limited online engagement
Mode of Delivery	Blended: Face to face and online
Additional learning requirements	None
NQF Credits	2
(Co-requisites)/Prerequisite	None
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 2

Module Content: The module will cover: **Definition of critical thinking**: striving for understanding; to have an inquisitive yet open-minded and flexible approach to exploring ideas, the ability to evaluate information and draw clear conclusions based on the evidence at hand. **Core critical thinking skills**: explain, infer, analyse, evaluate, problem solving, self-reflect. **deductive and inductive reasoning:** inductive reasoning- move from the specific to the general, deductive reasoning-moving from the general to specific. **Construction of argument**: construct statements that combine reasoning with evidence to support an assertion or argument. **Problem analysis**: define problem, determine the root causes of problem, develop alternative solutions to problem, implement solution, evaluate outcome. **Reflective learning**: asking open questions, reflect on answers, writing reflective learning essays, thinking about other's answers, asking 'why" questions. **Understanding fallacies:** what is a fallacy? description of various fallacies, identifying a fallacy in an argument, explaining a fallacy to an opponent in an argument.
Student Assessment Strategies: 100% Continuous assessment (1 reflective learning essay, 1 problem solving activity).

U3420RT	ENTREPRENEURSHIP SKILLS
Module Title:	**ENTREPRENEURSHIP SKILLS**
Module Code	U3420RT
NQF Level	5
Notional Hours	20
Contact hours	2 lecture hours per week for one semester
Mode of Delivery	Blended: Face to face and online
Additional learning requirements	None
NQF Credits	2
(Co-requisites)/Prerequisite	None
Compulsory/Elective	Compulsory
Semester Offered	Core Semester 2

Module Content: Definition and scope of entrepreneurship and entrepreneur; Entrepreneur's environment; Characteristics of entrepreneurs; Basic concepts of entrepreneurship; Forms of entrepreneurship; **The role of entrepreneurship**; The entrepreneurial process; **The entrepreneurial mind set**; Decision-making skills; Creativity, innovation and entrepreneurship; Critical thinking skills; Problem solving skills; Business and personal goal-setting skills; Negotiation skills, Communication skills, Assertiveness skills, Interpersonal skills, Cognitive skills; **Transferable skills**, Practical application of entrepreneurial skills; Starting a new business; Managing a business start-up; Growing an entrepreneurial venture; Marketing skills; Managing people; Record keeping; networking skills; Time management skills; Change management skills; Entrepreneurship success stories in the global context.
Student Assessment Strategies: The module will be assessed using 100% continuous assessment.

YEAR 2

T3602NS	CWIE PREPARATIONS

Module Title:	**CWIE prep**
Module Code:	**T3602NS**
NQF Level:	**6**
Notional Hours:	**80**
NQF Credits:	**8**
Contact Hours:	**Up to 2 lectures per week for one semester.**
Pre-requisites:	**None**
Course Assessment:	Continuous assessment (100% of the final mark) consisting of a combination of tests and quizzes, assignments, and a CWIE portfolio. A final mark of 50% is required to pass this course.

Course description: Professional behaviour, work-readiness, diligence & work ethics. Active searching for a CWIE situation with the aid of UNAM and the School.

YEAR 3

W3700IC WORKPLACE ATTACHMENT	
Module Title:	**WORKPLACE ATTACHMENT**
Module Code:	**W3700IC**
NQF Level:	**7**
Notional Hours:	**40**
Contact hours:	**Six (6) weeks in June/July break, 40 hours per week practical sessions = 240 hours**
NQF Credits:	**24**
Prerequisite:	**None**
Course Assessment:	100% Continuous Assessment made up of Army Service Assessment (10%); Lecturer Assessment (10%); Daily Logbook (30%); Final Report (25%), Presentation (25%).

Course Description: During this workplace attachment, students will work under Army supervision at a level of soldier rank and will undertake at least six weeks of internship at an appropriate army services for hand-on practical training. Students will maintain a logbook of daily activities and will be required to submit a comprehensive final report for assessment at the beginning of the following semester. During internship, students will be visited at their place by their Lecturers.

C.4.3. SERVICE COURSES FROM SCHOOL OF SCIENCE

S3511PG	**General Physics I**
Module Title:	**GENERAL PHYSICS I**
Module Code	**S3511PG**
NQF Level	**5**
Notional Hours	**140**
Contact Hours	**Up to 4 lecture periods per week for one semester. One practical/tutorial session per week for 1 semester.**
NQF Credits	**14**
Pre-requisites	**Entry requirements**

Course Assessment: Continuous assessment (50% of the final mark) consisting of a combination (or subset) of the following written and/or online assessments: Test(s) and quiz (es) – at least a minimum of 3 hours in total; Assignments – at least a minimum of 3 notional hours in total. Practical reports and tutorial tests – at least 10 notional hours in total; A continuous assessment mark of 40% is required to gain exam admission. One examination with minimum duration of 3-hours (50% of the final mark). A subminimum of 40% in the examination is required to pass, irrespective of the final mark. A final mark of 50% is required to pass this course.

Course description: Mechanics: Units, Physical Quantities, and Vectors; Motion Along a Straight Line; Motion in Two or Three Dimensions; Newton's Laws of Motion; Applying Newton's Laws; Work and Kinetic Energy; Potential Energy and Energy Conservation; Momentum, Impulse, and Collisions; Rotation of Rigid Bodies; Dynamics of Rotational Motion; Equilibrium and Elasticity; Fluid Mechanics; Gravitation; Periodic Motion. Waves & Acoustics: Mechanical Waves; Sound and Hearing. Thermodynamics: Temperature and Heat; Thermal Properties of Matter; The First Law of Thermodynamics; The Second Law of Thermodynamics. Practical: Experimental techniques, reading, measuring, uncertainty/error estimation, tabulation of data, graphing, elementary hypothesis verification, practical report writing.

S3512PG GENERAL PHYSICS II	
Module Title:	**GENERAL PHYSICS II**
Module Code:	**S3512PG**
NQF Level:	**5**
Notional Hours:	**140**
Contact Hours:	**Up to 4 lecture periods per week for one semester. One practical/tutorial session per week for 1 semester.**
NQF Credits:	**14**
Pre-requisites:	**S3511PG General Physics I)**

Course Assessment: Continuous assessment (50% of the final mark) consisting of a combination (or subset) of the following written and/or online assessments: Test(s) and quiz(es) – at least a minimum of 3 hours in total. Assignments – at least a minimum of 3 notional hours in total; Practical reports and tutorial tests – at least 10 notional hours in total. A continuous assessment mark of 40% is required to gain exam admission. One examination with minimum duration of 3-hours (50% of the final mark). A subminimum of 40% in the examination is required to pass, irrespective of the final mark. A final mark of 50% is required to pass this course.

Course description: Electromagnetism: Electric Charge and Electric Field; Gauss's Law; Electric Potential; Capacitance and Dielectrics; Current, Resistance, and Electromotive Force; Direct-Current Circuits; Magnetic Field and Magnetic Forces; Sources of Magnetic Field; Electromagnetic Induction; Inductance; Alternating Current; Electromagnetic Waves. Optics: The Nature and Propagation of Light; Geometric Optics; Interference; Diffraction. Modern Physics: Relativity; Photons: Light Waves Behaving as Particles; Particles Behaving as Waves; Quantum Mechanics I: Wave Functions; Quantum Mechanics II: Atomic Structure; Molecules and Condensed Matter; Nuclear Physics; Particle Physics and Cosmology. Practical: More formal error propagation graphical representation of errors, interpreting errors, and their use in elementary hypothesis verification.

S3511MC CALCULUS I

Module Title:	**CALCULUS I**
Module Code	**S3511MC**
NQF Level	**5**
Notional Hours	**120**
NQF Credits	**12**
Prerequisite	**None**
Contact hours	**4 lecture hours + 1 tutorial session per week for one semester**
Course Assessment:	Assessment will be based on CA (50%) and formal exam (50%). The CA will be compiled from three written class tests (summative assessment). Those may be supplemented by a suitable take-home assignment (formative assessment) and short online quizzes at the discretion of the lecturer.

ModuleContent: Theory of functions: What is a function? Injective, surjective, bijective functions, images and preimages, Operations on functions, inverses, maximal domains, examples, graph transformations; **Sequences and limits:** What is a sequence? Subsequence, boundedness, convergence, Cauchy sequences, limits and their computation, limit of a function approaching a point. **Continuity**: Definition(s) – sequential and epsilon-delta -intermediate value theorem, examples. **Differentiation:** Velocity and acceleration, tangents; definition of the derivative, differentiation and continuity, differentiation rules (sum, product, quotient and chain rules, derivative), the derivatives of polynomial, rational, exponential, trigonometric functions, discussion of a function graph, local extrema, points of inflection, asymptotic behaviour. **Theory of infinite series:** definition, absolute and conditional convergence, examples, comparison test, root and quotient tests. **Power series:** Radius and interval of convergence, Taylor's theorem, Taylor polynomials, Taylor/Maclaurin series expansions of a function at a point; the Taylor series of exponential and trigonometric functions.

S3512MC	**CALCULUS II**
Module Title:	**CALCULUS II**
Module Code	**S3512MC**
NQF Level	5
Notional Hours	120
Contact hours	4 lecture hours + 2 tutorial hourss per week for one semester
Additional learning requirements	None
NQF Credits	12
(Co-requisites)/Prerequisite	None
Compulsory/Elective	Compulsory
Semester Offered:	2

Module Content:Integration of real valued functions: Definite and indefinite Riemann integrals, antiderivatives, the Law of Differential Calculus, integrable functions, integration by parts, substitution; the area under a curve, convergence criteria for improper integrals. **Differential calculus in** R^p **:** partial derivatives of real-valued functions, Schwarz's theorem, examples; differentiable functions R^p -> R^q, the derivative differentiation rules (sum, product, chain rules), directional derivative and gradient. **Taylor expansion:** Local extrema, mean value theorems, Taylor's theorem for real-valued functions, first and second order Taylor formulas. **The Riemann integral over a compact interval in** R^p: Definition, examples, Fubini-Tonelli theorem, integrability criteria.

Student Assessment Strategies: Continuous assessment (50% of the final mark) consisting of a minimum of 3 (three) tests, And A continuous assessment mark of at least 40% is required for exam admission.

- One examination with minimum duration of 3-hours (50% of the final mark). A subminimum of 40% in the examination is required to pass, irrespective of the final mark. A final mark of 50% is required to pass this course.

S3511SF FUNDAMENTALS OF STATISTICS

Module Title:	**FUNDAMENTALS OF STATISTICS**
Module Code:	**S3511SF**
NQF Level:	**5**
Notional Hours:	**120**
Contact Hours:	**4 lecture periods per week for one semester. 1 tutorial session per week for 1 semester.**
NQF Credits:	**12**
Pre-requisites:	**None**
Course Assessment:	Continuous assessment (50% of the final mark) consisting of a combination (or subset) of the following written and/or online assessments: Test(s) and quiz(es) – at least a minimum of 3 hours in total; Assignments – at least a minimum of 3 notional hours in total; Tutorial tests – at least 10 notional hours in total; A continuous assessment mark of 40% is required to gain exam admission. One 3-hour examination (50% of the final mark). A subminimum of 40% in the examination is required to pass, irrespective of the final mark. Continuous Assessment (at least two tests, two tutorial test and two assignments) 50%; Examination 50% (1x3 hour Examination paper). A final mark of 50% is required to pass this course.

Course Description: Data types: categorical, continuous, numerical; Measurement scales: Nominal, ordinal, interval, ratio; Data sources: primary, secondary; Descriptive Statistics: graphical (histogram, bar charts, pie charts, frequency polygons, stem-and-leaf plots, box and whiskers plot) and numerical (frequency tables, cross-tabulations) summaries; Identifying outliers; Measures of central tendency; Measures of dispersion; Measure of position; Basic Set Theory, Basic probability concepts: Random variables; Probability distributions: Bernoulli, Binomial, Exponential, Poisson, Normal, Standard Normal.

S3532DI INTRODUCTION TO DIGITAL ELECTRONICS

Module title:	**INTRODUCTION TO DIGITAL ELECTRONICS**
Code:	S3532DI
NQF level:	5
Contact hours:	4 lecture hours + 3 practical session per week for one semester.
Credits:	14
Course assessment:	Continuous assessment 50% (Tests and Assignments): Examination 50% (1 x 3-hour examination paper)
Prerequisites:	**None**

Module description: This module covers; Fundamental Digital concepts: Number Systems and Codes; Representation of Numbers in the computer and Computer Arithmetic, different types of Number systems and codes and their conversions; Combinational Logic Analysis and Design: logic gates, Boolean algebra, logic simplification, combinational logic functions (including arithmetic circuits, encoders and decoders, multiplexers and demultiplexers, comparators, parity checkers and generators). Sequential Logic Analysis and Design: Latches, flip-flops, counters, shift registers. Design of Digital Systems. Logic gate circuitry: TTL, CMOS, ECL, logic levels, propagation delay, fan-out, power dissipation, noise margin, logic family interfacing.

S3611PE ELECTRONICS

Module Title:	**ELECTRONICS**
Module Code:	**S3611PE**
NQF Level	**6**
Notional Hours	**160**
NQF Credits	**16**
Contact Hours	**Up to 4 lecture periods per week for one semester. One practical/tutorial session per week for 1 semester.**
Pre-requisites	**(S3512PG: General Physics II)**
Module Assessment:	Continuous assessment (100% of the final mark) consisting of a combination (or subset) of tests and/or quizzes assignments, practical and/or project reports and/or presentations and/or designed and built circuits, as part of an assessment portfolio (at least 6 gradable items). Continuous assessment (100% of the final mark) consisting of a combination (or subset) of tests and/or quizzes, data analysis reports, numerical coding assignments, and CAS assignments, as part of an assessment portfolio (at least 6 gradable items).A final aggregate mark of 50% is required to pass this course.

Module description: Theory: Semi-conductor theory, intrinsic, p & n type doping, extrinsic semiconductors, conduction processes. Semiconductor diodes and diodes applications, devices transistors, biasing of transistors, load line and the Q-point and its stability; Small signal equivalent circuits and frequency response; p-n-p-n devices, thyristors, diacs and triacs, IC's, logic operation of integrated circuits; Operational amplifier characteristics, Op-amps practical applications, electronic control circuits and feedback concept. Digital circuits, analogue circuits, hybrid (digital plus analogue) circuits; Standard logic functions and gates - AND, OR, NOT, NAND, NOR, XOR, XNOR; truth tables; Boolean theorems; laws and rules; truth tables; Boolean algebra and simplification of basic logic network circuits; Basic combinational logic circuits, flip-flops and their applications. Practical: Soldering, designing, building and testing circuits, using multi-meters and oscilloscopes

S3611PW	WAVES & OPTICS
Module Title:	**WAVES & OPTICS**
Module Code	**S3611PW**
NQF Level	6
Notional Hours	160
Contact Hours	4 lecture hours + 1 tutorial per week for one semester.
Additional learning requirements	None
NQF Credits	16
(Co-requisites)/Pre-requisites	(S3511PG, S3512PG)
Compulsory/Elective	Compulsory
Semester Offered	1

Module Content: Linear oscillations: Classical SHM; Damped SHM; Driven (forced) SHM). **Wave motion:** 1D waves; Harmonic waves; Phase & phase velocity; Superposition; Complex representation; Phasors and wave addition; Plane waves; 3D differential wave equation; Spherical waves; Cylindrical waves. **Propagation of light:** Rayleigh scattering; Reflection & refraction; Fermat's principle. **Geometrical Optics:** Lenses; Stops; Mirrors; Prisms; Optical systems; Wavefront shaping & adaptive optics; Gravitational lensing. **Superposition of waves:** Addition of waves of the same and different frequencies. **Polarisation:** Nature of polarised light; Polarisers; Scattering and polarisation; Polarisation by reflection. **Diffraction:** Fraunhofer diffraction; Fresnel diffraction. **Practical:** Mandatory use of word processors and computational tools learned in Fundamentals of Statistical Computing and linear regression and estimating errors on slope ($m \pm \sigma_m$) & y-intercept ($c \pm \sigma_c$) to produce practical reports, focus on labs in the field of waves and optics.
Student Assessment Strategies: Continuous assessment (50% of the final mark) consisting of a combination (or subset) of the following written and/or online assessments: Test(s) and quiz(es) – at least a minimum of 3 hours in total Assignments – at least a minimum of 3 notional hours in total Practical reports – at least 20 notional hours in total A continuous assessment mark of 40% is required to gain exam admission. One examination with minimum duration of 3-hours (50% of the final mark).
A subminimum of 40% in the examination is required to pass, irrespective of the final mark. A final mark of 50% is required to pass this course.

S3601PC	COMPUTER METHODS
Module title:	**COMPUTER METHODS**
Code:	**S3601PC**
NQF level:	8
Contact hours:	2 lecture periods per week for one semester. One practical/tutorial session every second week for 1 semester
Credits:	16
Course assessment:	Continuous assessment (100% of the final mark) consisting of a combination (or subset) of tests and/or quizzes, data analysis reports, numerical coding assignments and/or presentations, as part of an assessment portfolio (at least 4 gradable items). A final aggregate mark of 50% is required to pass this course.
Prerequisites:	**(S3512PC: *Statistical & Numerical Methods in Physics*)**

Module description: This module covers; GNU/Linux: OS; Working set of commands, GUI; Python interactive environments: IPython, Jupyter Notebooks and/or JupyterLab; Intermediate Python; File I/O; Matplotlib & SciPy; Presentation and report writing: Program output; Use sellf-contained coding and report writing software; Producing publication quality graphs and visualisations; Introduction to automatic referencing systems; Introduction to LaTeX and BibTeX.

C.4.4. POSTGRDUATE PROGRAMME SERVICE MODULES

U3583AL	Academic Writing for Postgraduate Students
Module Title:	**Academic writing for Postgraduate Students**
Code:	**U3583AL**
NQF Level:	**8**
Contact hours:	4 lecture hours per week
Credits:	**18**
Course Assessment:	**50%** of the final mark consisting of a minimum of 3 (three) assessments
Examination	**50%** (3 hours examination paper)
Prerequisites:	None

Module description: Empower students with skills and knowledge to access and critique academic sources and to synthesize information from these sources to assist them in the substantiation and development of their own claims when writing academic papers in their respective fields of specialization

D. DEPARTMENT OF AERONAUTICS AND ASTRONAUTICS

Aeronautical Science focuses on the world of aviation with the emphasis on the technological aspects of both military and civil aviation. The aeronautical science modules have been developed with the needs of active aviation personnel in mind. The focus is on the principals and theories, which provide insight into aspects and issues of current and future importance. The Namibia's Vision 2030 process called for identification and analysis of the problems the country faced as a nation, and one of the major elements identified as a national issue was of the human resources and, institutional and capacity building (Namibia planning Commission 2021). Namibia National Commission indicated that the demand for qualified human resources, including aviation professionals in Namibia was high; and was to become more intense in the future as a result of projected economic growth. The Aeronautical Science modules in this programme have been designed with the 4th Industrial revolution in mind; and particularly in the aviation industry where safety levels are so high.
The programme addresses the following national Sustainable Development Goals (SDGs):
No poverty: The program educational objectives are intended to produce versatile aviation/aerospace graduates who are successful in their chosen career path. The graduates will be able to obtain positions, which require detailed technical knowledge and skills in the operation and management of aircrafts and airports, and hence reducing poverty.
Quality education: With outcomes that encompass knowledge, skills and attitudes, and positive participation in local, national and international society**. Climate action:** Aviation industry being a major contributor of greenhouse gases, various concepts aimed at reducing the emission and building climate resilience are explored

D.1. DEPARTMENTAL REGULATIONS

D.1.1. ADMISSION REQUIREMENTS

To qualify for admission to the Bachelor of Science in Aeronautical Science Honours, an applicant shall satisfy the following minimum requirements:
ADMISSION REQUIREMENTS BASED ON NAMIBIAN SCHOOL LEAVING CERTIFICATES 2021 ONWARDS
Candidates must be in possession of a valid Namibian Senior Secondary Certificate (NSSC) with EITHER:
A pass in five (5) different subjects with:
(a) Mathematics and Physics on NSSCAS level with an average **" d "**or higher;
(b) 3 subjects on NSSCO level with a **C** or higher, one of which should be Biology or Chemistry and;
(c) English must be at minimum **C** at NSSCO level.
OR A pass in five (%) different subjects with:
(a) 3 subjects on NSSCAS level with an average **d** or higher; specifically, Mathematics & Physics, and, preferably Biology or Chemistry;
(b) 2 subjects on NSSCO level with a **D** or higher;
(c) English must be at minimum **C** at NSSCO level.

Admission criteria based on Namibian School Leaving Certificates prior to 2021
Candidates in possession of a valid Namibian Senior Secondary Certificate (NSSC) issued prior to 2021 (only) and has a pass in 5 different subjects, as outlined below, can enroll in the Extended mode of this programme:
A pass in five different subjects as follows:
(a) 2 subjects on higher level (NSSCH) with a **4** or higher;
(b) 3 subjects on ordinary level (NSSCO) with a **C** or higher;
(c) English, Mathematics and Physical Science must be with a minimum **C** on NSSCO.
OR A pass in five different subjects as follows:
(a) 3 subjects on higher level (NSSCH) with a **4** or higher;
(b) 2 subjects on ordinary level (NSSCO) with a **D** or higher;
(c) Additionally, **English, Mathematics** and **Physical Science** must be with a minimum **C** on NSSCO.
OR Candidates must be Namibian Defence Force (NDF) officers at the rank of 2nd Lt. – Capt. /equivalent. The candidate must be recommended by the Ministry of Defence and Veteran Affairs (MODVA)

ALTERNATE PATHWAYS TO ADMISSION

Mature Age Entry Scheme (MAE)

Candidates aspiring for admission to the **Bachelor of Science in Aeronautical Science programme** can do so through the Mature Age Entry Scheme under the following conditions:

- Be at least 25 years old on the 1st day of the academic year in which admission is sought
- Have at least completed Senior Secondary education, and
- Have proof of at least 5 years aviation/aerospace related work experience

Additionally, such a candidate will sit for Four (4) Mature Age Entry examination papers covering the topics of:

- **English Proficiency, General Knowledge, Mathematics Ability, and Physical Science**

A **50%** average of all papers is required with no paper score below **40%**

Recognition of Prior Learning

Another way of entering the programme is through **Recognition of Prior Learning (RPL)** according to the UNAM RPL policy. Depending on the content of a qualifying candidate's RPL portfolio, placement in the programme can be accomplished at the discretion of the Head of Department and/or Programme Coordinator into either *Normal* Mode of this programme.

Note: Obtaining the minimum number of points however, does not necessarily ensure admission.
Admission is based on places available in the programme and is awarded based on merit.

ADDITIONAL SELECTION CRITERIA

(a) The selection of candidates will be done based on the highest points on the UNAM evaluation scale, guided by matters of equity as outlined by UNAM and national policies (such as gender and regional representation).
(b) A placement test will be administered to the potential eligible candidates, whereby 60% passing mark will be required.

D.1.2. ARTICULATION OPTIONS

Bachelor of Science in Aeronautical Science (Honours) may serve as the entry point for relevant Postgraduate Diplomas and Master's Programmes.

D.1.3. DURATION OF STUDY

The **Bachelor of Science in Aeronautical Science Honours degree programme** cannot be completed in less than three (4) years. However, it must be completed within a period of six (6) years of full-time study, unless special permission is granted for this period to be exceeded.

D.1.4. MODE OF DELIVERY

Bachelor of Science in Aeronautical Science Honours degree programme is offered on a mode(s) of delivery face-to-face, blended. The mode of delivery consists of a combination of lectures, tutorials, lab practicals, research projects and industrial attachments. In order to be admitted to examinations, students are required to attend at least **80%** of the lectures and to complete the required elements that make up the continuous assessment marks. Attendance of practical and tutorial classes is compulsory for all courses that have these components.

D.1.5. ASSESSMENT CRITERIA

Unless stated otherwise in the module descriptor, the following shall apply:
For modules assessed with Continuous Assessment (CA) and Examination,

- A minimum CA Mark of **40%** is required to gain entrance into the relevant module examination. Continuous assessment will come from: class tests, assignments, presentations, practical/laboratories and field drills and reports
- The final mark for each module will be calculated using a ratio of CA mark: Exam mark of **50: 50** and
- In order to pass a module, a minimum final mark of **50%** shall be required.
- Notwithstanding the above, a subminimum of at least **40%** will apply to the Exam Mark,
- A candidate must obtain a sub-minimum of **40%** in the examination to pass a module.

For 100% Continuous Assessment modules, a final aggregate mark of 50% shall be required to pass.

D.1.6. QUALITY ASSURANCE ARRANGEMENTS

The quality of the programme will be monitored by using the following methods:

- Soliciting regular feedback from stakeholders (alumni and external examiners).
- Feedback from the student-lecturer's evaluations, workplace attachments and school advisory board.
- A mentorship programme will be implemented for students in this programme.
- Through monitoring of student performance, at risk students will be identified for possible intervention.
- Tracer studies shall be conducted to evaluate the viability and relevance of the programme and to obtain feedback from our graduates on their experience with respect to employment and further studies.
- All 1st-year modules shall be moderated **internally,** and all 2nd, 3rd and 4th year modules shall be moderated both **internally and externally**.
    - For modules with examinations, examination papers, memoranda and scripts shall be moderated.
    - For **100%** continuous assessment modules, at least **50%** of the assessments shall be moderated as per guideline above.
- The programme shall be reviewed, and prescribed materials updated every **five (5) years**, or earlier, if the need arises.
- To comply with the Namibia Qualifications Authority Act no. 29 of 1996 as well as the Higher Education Act no. 26 of 2003, the programme shall be submitted to the NQA for registration on the NQF and to the NCHE for accreditation.

D.1.7. RE-ADMISSION REGULATIONS

NORMAL ENROLLMENT

To be re-admitted to the School of Military Science, a student must have successfully completed the following minimum number of credits as indicated below:

64 credits (of which **24** must be non-core) by the end of the first year of registration
147 credits (of which 38 must be non-core) by the end of the second year of registration
238 credits by the end of the third year of registration
320 credits by the end of the fourth year of registration
424 credits by the end of the fifth year of registration
521 credits by the end of the sixth year of registration

The **Bachelor of Science in Aeronautical Science Honours** must be completed after a maximum of 6 years of registration. Further to the above all **First-Year modules** must be passed before one can register for any **Third-Year module**.
A student will not be **re-admitted** into the School of Military Science if he/she has not passed the above criteria.

D.1.8. ADVANCEMENT AND PROGRESSION RULES

PASS REQUIREMENTS
NORMAL ENROLLMENT
A student advances to the subsequent academic year of study when the following conditions have been met:

- Year **1** to Year **2:** At least **86** credits including the entire core.
- Year **2** to Year **3**: **All first-year** credits in addition to at least **86 second-year** credits
- Year **3** to Year **4**: **All first and second-year** credits in addition to at least **80 third-year credits**

A student who fulfilled the re-admission regulations but **could not advance to the next academic year must first register for all failed modules**. Subject to **pre-requisites**, such a student **may then add modules of the subsequent academic year**, provided that the total number of registered credits **does not exceed** the prescribed number of credits of the current academic year by more than **20%.**

D.1.9. REQUIREMENTS FOR QUALIFICATION AWARD

This qualification will be awarded to people credited with a minimum of 521 credits, and who have met the requirements in addition to all the compulsory and electives courses prescribed for this Degree programme.

D.1.10. CAREER OPPORTUNITIES

Graduate would have an opportunity to work in the field of:

- Flight operations
- Air traffic control services
- Aeronautical information services
- Meteorological services
- Airport management
- Aviation safety and security
- Aviation administration and
- Aircraft incidents & accidents investigation services

D.2. BACHELOR OF SCIENCE IN AERONAUTICAL SCIENCE HONOURS TABLE FOR ALL MODULES

Qualification: BSc in Aeronautical Science Honours 34BSAS

Students opting for a BSc in Aeronautical Science Honours must take all the following compulsory and electives courses:

YEAR 1

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
Year 1 Core Semester 1					
1	Skills Portfolio	U3403FS	NCB	None	None
1	Academic Literacy I	U3583AL	8	None	None
1	National and Global Citizenship	U3420CN	2	None	None
1	Sustainability and Environmental Awareness	U3420SE	2	None	None
1	Matrices and Complex Numbers	T3520AN	4	None	None
1	Concepts of Air Navigation	T3520AN	4	None	None
1	Digital Literacy	U3583DD	8	None	None
Year 1 Semester 1					
1	General Physics I	S3511PG	14	None	None
1	Aviation History	T3511AH	12	None	None
1	Calculus I	S3511MC	12	None	None
1	Fundamentals of Statistics	S3511SF	12	None	None
Year 1 Semester 2					
2	General Physics II	S3512PG	14	None	S3511PG
2	Calculus II	S3512MC	12	None	S3511MC
2	Introduction to Physical Geography	T3532MG	14	None	None
2	Principles of Flight I	T3512AF	14	None	None
Total Credits			**128**		

YEAR 2

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
Year 2 Core Semester 1					
1	Academic Literacy II	U3683LB	8	None	None
1	Project Management Skills	U3420PJ	2	None	None
1	Critical Thinking	U3520TH	2	None	None
1	Entrepreneurship Skills	U3420RT	2	None	None
1	Human Factors	T3640AR	2	None	None
1	Military Law	T3620MS	8	None	None
1	General Aviation Operations	T3620AS	8	None	None
Year 2 Semester 1					
1	Electronics	S3611PE	16	None	S3512PG
1	Waves & Optics	S3611PW	16	None	S3511PG& S3512PG
1	Flight Physiology	T3641AY	7	T3521AF	None
1	Principles of Flight II	T3611AF	16	T3521AF	T3641AY
Year 2 Semester 2					
2	Crew Resource Management in Aviation	T3612AC	16	None	T3641AY
2	CWIE PREP	T3602NS	8	None	None
2	Aviation Navigation GNSS	T3652AN	14	T3611AF	None
2	Aviation Safety	T3672AS	14	None	T3641AY
Total Credits			**135**		

YEAR 3

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
Year 3 Core Semester 1					
1	Workplace Attachment	W3700IC	24	T3602NS	None
Year 3 Semester 1					
1	Aviation-Aerospace Security Issues	T3721AA	8	T3612AF	None
1	Airport Planning and Management	T3731AB	16	None	None
1	Aviation Management	T3751AC	16	None	None
1	Military Psychology	T3731MG	8	None	None
1	Aviation Meteorology	T3701AM	8	None	None
Year 3 Semester 2					
2	Military Management & Leadership	T3752MG	16	None	None
2	Aviation Environmental Science	T3732AE	16	None	None
2	Aviation Ethics	T3722AD	8	None	None
2	Aviation Laws and Regulations	T3702AE	8	T3612AF	None
2	Aircraft Turbine Engine Operation	T3732AF	16	T3612AF	None
Total Credits			**120**		

YEAR 4

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
Year 4 Core Semester 1					
1	Research Methodology & Proposal	T3810AR	22	None	None
Year 4 Semester 1					
1	Advanced Aircraft Performance	T3831AA	20	T3732AF	None
1	Atmospheric Science	T3821AS	10	T3712AE	None
1	Unmanned Aircraft Systems	T3851AU	20	T3712AE	None
Year 4 Semester 1 & 2					
1 & 2	Research Project	T3813AP	8	T3810AR	None
Year 4 Semester 2					
2	Aviation Logistics	T3812AL	20	T3751AC	None
2	Human Resources in Aviation	T3832AH	20	T3751AC	None
2	Corporate Aviation Operation	T3842AC	10	T3731AB	None
Total Credits			**138**		

D.3. BACHELOR OF SCIENCE IN AERONAUTICAL SCIENCE HONOURS 34BSAS COURSE DESCRIPTIONS

First Year Modules

T3520AN	**CONCEPTS OF AIR NAVIGATION**
Course Title:	**Concepts of Air Navigation**
Code:	**T3520AN**
NQF Level:	**5**
Contact hours:	2 lecture hours per week for one semester
Credits:	**4**
Course Assessment:	**100% of the final mark** of tests, quizzes and assignments.
Examination	**None**
Prerequisites:	None

Course description: Air Navigation: The understanding of Magnetic Compass; Heading and Track. **Geographical concept**: The understanding of True North; Magnetic North; Compass North; Magnetic declination (variation); Compass deviation; Heading; Drift and Track. **Chart plotting:** Time estimation in reference to ground speed.

T3511AH	**AVIATION HISTORY**
Course Title:	**Aviation History**
Code:	**T3511AH**
NQF Level:	**5**
Contact hours:	4 lecture hours + 1 tutorial hour per week for one semester
Credits:	**14**
Course Assessment:	**50%** of the final mark consisting of a minimum 3 (three) tests, quizzes and assignments
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	None

Course description: Aviation timeline: Aviation myths and legends; Balloons; Ornithopters or early helicopters. **Aviation pioneers: The Wright Brothers. Aviation before and during World War I:** aerostats, aerodynes. **Aviation during and after World War II:** the evolution of aerodynes, concept of the jets and NG. **Barnstormers and racers:** First flights across the Atlantic; the pathfinders of aviation. **The era of the jet aircraft. Space exploration. Airships:** types of airships. The history of airlines: different airlines from various continents. **History of national air forces:** Namibian Air Force. **Flying boats; Aviation technology and development.**

T3532MG	**INTRODUCTION TO PHYSICAL GEOGRAPHY**
Course Title:	**Introduction to Physical Geography**
Code:	**T3532MG**
NQF Level:	5
Contact hours:	4 lecture hours + 3 practical hours per week for one semester
Credits:	**14**
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	None

Course description: The earth: Movements and seasons; Basic facts and mappings. **The varieties of surface form:** How surface form develops; plains; surfaces rougher than plains; the margins of the land. **Introduction to climate:** Air temperature and solar energy; the circulation of the atmosphere; winds and pressure; precipitation. **Hydrosphere:** Namibian weather and climate; Climatological data; Synoptic weather charts and climogrammes. **Atmospheric disturbances:** Air masses and fronts. **Classification of climates and their distribution: The tropical humid climates;** The dry climates; Humid mesothermal climates; Humid microthermal; Polar and highland climates. **Water and the seas:** The waters of the land; Natural vegetation and soils.

T3512AF	**PRINCIPLES OF FLIGHT I**
Course Title:	**Principles of Flight I**
Code:	**T3512AF**
NQF Level:	5
Contact hours:	4 lecture hours + 2 practical hours per week for one semester
Credits:	14
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	None

Course description: Basic of aerodynamics: Subsonic aerodynamics and transonic aerodynamics. **Air navigation:** Basics of navigation; Aircraft performance; Flight planning and monitoring. **Radio navigation:** Radio aids; Basic radar principles; Self-contained and external-referenced navigation systems. **Flight instruments:** Air data instruments; Gyroscopic instruments; Magnetic compass; Power plant and system monitoring instruments. **Aviation Meteorology:** The flight hazards and meteorological information; Ice accretion; Visibility; Frontal analysis; Synoptic charts and upper level weather charts; Thermodynamics.

Second Year Modules

T3640AR	HUMAN FACTORS
Course Title:	**Human Factors**
Code:	**T3640AR**
NQF Level:	6
Contact hours:	2 lecture hours per week for one semester
Credits:	2
Course Assessment:	**100% of the final mark of tests, quizzes and assignments.**
Examination	**None**
Prerequisites:	None

Course description: Definitions concepts and history: Aviation Human Factors, management and the organization. **Human performance in aviation operations:** Fatigue and stress and how to manage them, Human information processing and operational decision-making, Human error and threat management. **Threat and Error Management (TEM) in flight operations:** air traffic control and cabin operations. **Resource management training:** on the flight deck and in air traffic control. **Automation in the workplace, The design of Standard Operating Procedures (SOPs)** and checklists, An introduction to Safety Management Systems.

T3620MS	MILITARY LAW
Course Title:	**Military Law**
Code:	**T3620MS**
NQF Level:	6
Contact hours:	2 lecture hours per week for one semester
Credits:	8
Course Assessment:	**100% of the final mark of tests, quizzes and assignments.**
Examination	**None**
Prerequisites:	None

Course description: General introduction to the study of law: The nature and essence of the law; Classification of the Namibian law; Sources of law; Jurisprudence in general**. Military Law:** Introduction and application; Jurisdiction of civil courts; Establishment of military courts; Military offences; Convening authorities; Different military courts and its jurisdiction; Boards of inquiry; Preliminary investigations (PI) and military police investigations; Pre-trial procedures; Redress of wrongs. **Military courts:** Determining the trial court; Duties of the court and officials; Procedures; Rights of the accused; Recording of proceedings; Sentencing; Confirmations and reviews; right to the review of proceedings; State of emergency in terms of the Namibian Constitution. **Defence Act relating to being on service:** Status of Force Agreements (SOFA); Memorandum of Understanding (MoU); Conduct of visiting forces. **Historical background of International Humanitarian Law (IHL):** The Geneva Conventions Act 2003 and International Humanitarian Laws; Crimes against humanity; War crimes; command responsibilities.

T3620AS	GENERAL AVIATION OPERATIONS
Course Title:	**General Aviation Operations**
Code:	**T3620AS**
NQF Level:	6
Contact hours:	2 lecture hours per week for one semester
Credits:	8
Course Assessment:	**100% of the final mark of tests, quizzes and assignments.**
Examination	**None**
Prerequisites:	None

Course description: General Aviation (GA): A historical perspective, scope of General Aviation. **The Fixed Base Operator:** Backbone of General Aviation. **Managing a Fixed Base Operation:** Financial Planning and control; The role of GA Marketing; Marketing Research. **Transportation needs assessment. Value analysis:** Costs versus benefits; Methods of acquiring a business aircraft. **Promotion and sales:** sales management.

T3641AY	FLIGHT PHYSIOLOGY
Course Title:	**Flight Physiology**
Code:	**T3641AY**
NQF Level:	6
Contact hours:	2 lecture hours + 1 practical hour per week for one semester
Credits:	8
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 2 hours examination paper)
Prerequisites:	T3521AF

Course description: Atmospheric Physics: Human physiology; the circulatory system; oxygen and respiration. **The Nervous system:** Ear; hearing and balance; eye and vision**. Gas law:** Hypoxia; illusions and disorientation. **Flying and Health:** Sleep and fatigue; drugs, alcohol and human stresses. **High altitude and speed flight.**

T3611AF	PRINCIPLES OF FLIGHT II
Course Title:	**Principles of Flight II**
Code:	**T3611AF**
NQF Level:	6
Contact hours:	4 lecture hours + 2 practical hours per week for one semester
Credits:	16
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	T3512AF

Course description: Flight performance and planning: Multi-engine gas turbine; Take-off; Cruise; Descent; Landing; Weight and balance; Flight planning and monitoring**. Practical:** Flight simulation. **Human factors:** Human information processing; Human behavior; Threat & error management.

T3612AC	CREW RESOURCE MANAGEMENT IN AVIATION
Course Title:	**Crew Resource Management in Aviation**
Code:	**T3612AC**
NQF Level:	6
Contact hours:	4 lecture hours + 1 practical hour per week for one semester
Credits:	16
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	(T3641AY)

Course description: Human error and reliability in crew resource management in aviation: Types of error; Human factor mishap; and threat. **Error management:** Error chain; Prevention and detection; Safety culture; Standing operation procedures (SOPs) and organizational factors. **Stress:** Acute stress responses; Workload and fatigue. **Situational awareness:** Detection; Processing; Action; Complacency; Risk management; Situational awareness and automation management. **Decision-making:** Skill based; Rule based and knowledge-based decisions. **Effective communications:** Inquiry; Advocacy and assertiveness; Conflict resolution; Feedback and critique. **Leadership:** Team behavior and synergy.

T3602NS	CWIE PREPARATION
Course Title:	**CWIE Preparation**
Code:	**T3602NS**
NQF Level:	6
Contact hours:	2 lecture hours per week for one semester.
Credits:	8
Course Assessment:	**100% of the final mark of tests and quizzes, assignments, and a CWIE portfolio.**
Examination	**None**
Prerequisites:	None

Course description: Professional behaviour, work-readiness, diligence & work ethics. Active searching for a CWIE situation with the aid of UNAM and the School.

T3652AN	AVIATION NAVIGATION GNSS
Course Title:	**Aviation Navigation GNSS**
Code:	**T3652AN**
NQF Level:	6
Contact hours:	4 lecture hours + 1 practical hour per week for one semester
Credits:	16
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	T3611AF

Course description: Global Navigation Satellite System (GNSS): Definition, Principles and components, position determination, errors**; Augmentations:** Space/Satellite Based Augmentation (SBAS), Aircraft Based Augmentation System (ABAS), Land/Terrestrial Based Augmentation System (LBAS); **GNSS system performance:** Technical Standard Order (TSO) and non-TSO units, Receiver installations, unit modes and operations; **Integrated VFR flight planning and operations with a GNSS Receiver; GNSS data interpretations:** CDI bar, track, heading, range, groundspeed and time. **GNSS Architecture:** American Global Positioning System (GPS), Russian Global Navigation Satellite System (GLONASS), Chinese BeiDou Navigation Satellite System (BDS), European Global Navigation Satellite System (GALILEO); **Other Satellite Navigation Systems**: Indian Regional Navigation Satellite System (IRNSS), Japanese Quasi-Zenith Satellite System (QZSS). **GNSS Current Trends and the Future; GNSS Receiver Practicals.**

T3672AS	AVIATION SAFETY
Course Title:	**A**VIATION **S**AFETY
Code:	**T3672AS**
NQF Level:	6
Contact hours:	4 lecture hours + 1 practical hour per week for one semester
Credits:	16
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	(T3641AY)

Course description: Introduction and regulatory bodies: Organizational /institutional roles and safety reporting systems. **Human Factors:** Mechanical and human factors analysis; Human factors. **Ground Safety:** Aviation ground operations environment, Aircraft mishaps, Aircraft hazards, Ground support equipment and hazardous material. **SMS:** Systems management; Risk management theory. **Flight safety:** Flight safety statistics; Air traffic control; Managing flight safety. **Aircraft Accident and incidents investigation procedures:** Accident investigation procedures and preventative accident methodology. **CRM:** Cockpit resource management.

Third Year Modules

T3721AA	AVIATION-AEROSPACE SECURITY ISSUES
Course Title:	**Aviation-Aerospace Security Issues**
Code:	**T3721AA**
NQF Level:	7
Contact hours:	2 lecture hours + 1 practical hour per week for one semester
Credits:	8
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 3 gradable items).
Examination	**50%** (1x 2 hours examination paper)
Prerequisites:	T3612AF

Course description: Security techniques: Definition of security concept of security technologies and security measures at airports. **ICAO and Namibia NCAA regulations:** History; application; ICAO standards; Treaties and international obligations. **Terrorism:** Terrorist activities and philosophies; Hijacking and piracy. **Improvised explosive devices:** Types and effect; Searching for IEDs and management of threat. **Dangerous goods. Quarantine and customs.**

T3731AB	AIRPORT PLANNING AND MANAGEMENT
Course Title:	**Airport Planning and Management**
Code:	**T3731AB**
NQF Level:	7
Contact hours:	4 lecture hours + 1 practical hour per week for one semester
Credits:	16
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	T3612AF

Course description: Airport organization and public relations management. The economic, political and social role of airports. Airport privatization; revenues and costs. **Airport requirements:** Master plan; Site selection; Layout; Land use; Airfield facilities; Terminal area and building design. **Airport financial management:** Financing methods and planning.

T3751AC	AVIATION MANAGEMENT
Course Title:	**AVIATION MANAGEMENT**
Code:	**T3751AC**
NQF Level:	7
Contact hours:	4 lecture hours + 1 practical hour per week for one semester
Credits:	16
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	None

Course description: Air transportation; aviation law; airline management; aviation safety and accident investigation. Airline economics and finance: Principles of macro and micro economics; Principles of management; Financial and managerial accounting. **Human capital:** Business statistics; Public policy and labour laws. **Collective bargaining, dispute resolution and labour relations environment.**

T3731MG	MILITARY PSYCHOLOGY
Course Title:	**Military Psychology**
Code:	**T3731MG**
NQF Level:	7
Contact hours:	4 lecture hours + 1 tutorial hour per week for one semester
Credits:	8
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	None

Course description: Personality theory and war: Role of personality and personality theory of Jung; Adjustment. **Psychology:** Maladjustment and adolescent; Transition in military training. **Operational psychology:** Psychological effects of combat; Post-traumatic stress disorder. **Peacekeeping psychology:** Model to support soldiers and their dependents; Stressors and prisoner of war. **Psychological warfare:** Ethics in war operations.

T3701AM	AVIATION METEOROLOGY
Course Title:	**Aviation Meteorology**
Code:	**T3701AM**
NQF Level:	7
Contact hours:	4 lecture hours + 1 tutorial hour per week for one semester
Credits:	8
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	None

Course description: Introduction: Atmosphere, atmospheric hazards, scientific inquiry, Earth's spheres, composition of the atmosphere, Ozone depletion, vertical structure of the atmosphere. **Aviation Weather:** The need for Meteorology, General Aviation accidents statistics, sources of aviation weather, Aviation weather problems. **Heat & Temperature:** Earth-Sun relationship, Energy, Temperature, Heat, Mechanism of heat transfer: Radiation, reflection, scattering, diffusion, the greenhouse effect. Air-Temperature data, the control of temperature: Land & water, Ocean currents, altitude, geographical positioning, cloud cover & albedo, World distribution of temperature, Temperature measurements, Heat stress and wind chill: Indices of human discomfort. **Precipitation/Condensation:** Cloud formation, cloud classification, Types of fog, Forms of precipitation, precipitation measurement. **Air pressure & Winds:** Air pressure and winds, Measuring air pressure, Pressure change with altitude, Winds aloft, Surface winds, Wind measurement. **Wind & Air Pressure:** Applications. **Thunderstorms & Tornadoes: Thunderstorms & Tornadoes:** Introduction, Thunderstorms, Air mass thunderstorms, severe thunderstorms, Supercell thunderstorms, Lightning and thunder, Tornadoes; Tornadoes forecasting. **Hurricane:** Profile. **Weather analysis and forecasting:** Weather analysis: Overview, Weather forecasting using computers, Other weather forecasting methods, forecast accuracy, Satellites in weather forecasting.

T3752MG	MILITARY MANAGEMENT & LEADERSHIP
Course Title:	**Military Management & Leadership**
Code:	**T3752MG**
NQF Level:	7
Contact hours:	4 lecture hours + 1 tutorial hour per week for one semester
Credits:	16
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	None

Course description: Leadership processes: Contingent and dynamic; Personal strengths; values; growth opportunities; team; group; vision and professional development plan. **Social psychology:** Organizational behaviour and group dynamics. **Management:** General; environment and diversity. **Planning:** Skills; creative problem solving; strategy and operational processes and organizing skills. **Organizing and delegation: management of change: Power;** conflict and stress; control of human resources and finance controls in organization.

T3732AE	AVIATION ENVIRONMENTAL SCIENCE
Course Title:	**Aviation Environmental Science**
Code:	**T3732AE**
NQF Level:	7
Contact hours:	4 lecture hours + 1 tutorial hour per week for one semester
Credits:	16
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	None

Course description: Aviation and the environment (Introduction): Role of general aviation, facts about Aviation emissions, Aviation Biofuels, Facts on alternative fuels, Technology and the environment, Energy Statistics, NATA environmental initiative, **Air Traffic Modernization:** The challenges ahead, Goals and Metrics, NextGen Solutions, Clean Sky Joint Technology Initiative, ICAO Initiatives, **Earth's two critical features:** Our atmosphere, Climate change, Glacial retreat, Global GHG emitters, Global temperature and sea level, Global warming. **Aircraft emissions:** Multiple environmental challenges, Trade-offs in reducing impacts Noise impacts, Air quality, Global Climate. **Global climate:** Effects on Aviation, Global climate: Alternative energy, Water quality, Green airports, Environmental footprints, Regulation & compliance, Green energy, Alternative energy, Mobile sources of air pollution, **Aircraft emission:** Reduction, Airport Infrastructure, **Ground Support equipment Sustainable energy sources:** Sustainable energy, sources of energy, non-renewable energy, **Renewable energy:** Solar, Wave, Geothermal, Tidal, Hydroelectric, Biomass energy, Regional air Airport environmental management plan, Legal risks on airport environment. **Traffic management initiative:** NextGen, Other Regional Initiatives.

T3722AD	AVIATION ETHICS
Course Title:	**Aviation Ethics**
Code:	**T3722AD**
NQF Level:	7
Contact hours:	2 lecture hours + 1 tutorial hour per week for one semester
Credits:	8
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 3 gradable items).
Examination	**50%** (1x 2 hours examination paper)
Prerequisites:	None

Course description: Ethical theories: Dilemmas; decision-making; rights and character. **Capitalism and its critics:** the business of aviation; issues in responsibility and whistle-blowing in aviation. **Racial discrimination against pilots:** race; gender and age**. Economic favouritism.**

T3702A	AVIATION LAWS AND REGULATIONS
Course Title:	**AVIATION LAWS AND REGULATIONS**
Code:	**T3702AE**
NQF Level:	7
Contact hours:	2 lecture hours + 1 tutorial hour per week for one semester
Credits:	8
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 3 gradable items).
Examination	**50%** (1x 2 hours examination paper)
Prerequisites:	T3612AF

Course description: Aviation rules: Administration; aircraft; personnel; airspace; carriage of dangerous goods; aerodrome traffic and noise; aircraft registration and parachuting. **Certification:** Air operators; adventure aviation; large and medium aeroplanes. **Aeronautical information services organizations:** Agricultural aircraft operations; aviation training organizations; aircraft maintenance; design; manufacturing and recreation organizations; Aerodromes; aeronautical telecommunication; air traffic and instrument flight procedures; Aviation meteorological service organisations and foreign air transport operators.air traffic and instrument flight procedures; Aviation meteorological service organisations and foreign air transport operators.

T3732AF	AIRCRAFT TURBINE ENGINE OPERATION
Course Title:	**Aircraft Turbine Engine Operation**
Code:	**T3732AF**
NQF Level:	7
Contact hours:	2 lecture hours + 1 tutorial hour per week for one semester
Credits:	8
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 3 gradable items).
Examination	**50%** (1x 2 hours examination paper)
Prerequisites:	T3612AF

Course description: The gas turbine cycles: Basic principles: performance and efficiency of gas turbine; Effects of turbine temperature; atmospheric conditions on gas turbine. **Engine sections:** compressor stall and surge in gas turbine.

Fouth Year Modules

T3810AR	RESEARCH METHODOLOGY AND PROJECT PROPOSAL
Course Title:	**Research Methodology and Project Proposal**
Code:	**T3810AR**
NQF Level:	8
Contact hours:	4 hours of lectures per week
Credits:	14
Course Assessment:	**100%**
Examination	**None**
Prerequisites:	None

Course description: The nature and need for research in science discipline. **Scientific method:** Historic overview of research driven scientific progress. **Research methods and design:** Qualitative and quantitative research methods; experimental; quasi-experimental and non-experimental methods; selection of research topics; writing a research proposal; conducting a literature review; sampling methods; design of questionnaires; interviews and observation techniques; independent and dependent variables; correlation and causation; validity of conclusions;' statistical methods of data evaluation and data analysis; methods of presenting data and conclusions. **Report writing and** ethical considerations in research.

T3813AP	RESEARCH PROJECT
Course Title:	**Research Project**
Code:	**T3813AP**
NQF Level:	8
Contact hours:	4 lecture hours per week for one semester
Credits:	16
Course Assessment:	**100%**
Examination	**None**
Prerequisites:	T3810AR

Course description: Military/Aviation/Aeronautical science project: An investigation in nature carried out as an individual involving research; literature search; data collection; analysis and presentation. The presentation is expected to include necessary information and to be in accordance with relevant codes of practice.

T3831AA	ADVANCED AIRCRAFT PERFORMANCE
Course Title:	**Advanced Aircraft Performance**
Code:	**T3831AA**
NQF Level:	8
Contact hours:	4 lecture hours + 3 practical hours per week for one semester
Credits:	20
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	T3732AF

Course description: Weight and balance. Aerodynamic; engine and propeller performance of aircrafts. **Aeroplane trim:** Flight envelopes; take-off and field performance; climb; cruise; descent and landing performance of aircrafts. **Manoeuvre:** Thermostructural and environmental performance. Mission analysis. **Aircraft noise:** Sources; propagation and flight trajectories.

T3821AS	ATMOSPHERIC SCIENCE
Course Title:	**Atmospheric Science**
Code:	**T3821AS**
NQF Level:	8
Contact hours:	4 lecture hours + 3 practical hours per week for one semester
Credits:	10
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	T3712AE

Course description: Components of Earth System: Hydrologic Cycle; Carbon Cycle; Oxygen in the Earth System. **Atmospheric Thermodynamics:** Gas Laws; Hydrostatic Equation; First Law of Thermodynamics; Adiabatic Process; Water Vapor in Air; Static Stability; Second Law of Thermodynamics and Entropy. **Radiative Transfer:** Spectrum of Radiation; Quantitative Description of Radiation, Blackbody Radiation; Physics of Scattering and Absorption; Radiative Transfer in Planetary Atmospheres. **Atmospheric Chemistry:** Composition of Troposphere Air; Sources; Transport and Sink of Trace Gases; Tropospheric Trace Gases; Tropospheric Aerosol; Air Pollution; Tropospheric Chemical Cycles and Stratospheric Chemistry. **Cloud Microphysics:** Nucleation of Water Vapor Condensation; Microstructure of Warm Cloud; Growth of Cloud Droplets in Warm Clouds; Microphysics of Cold Clouds.

T3851AU	UNMANNED AIRCRAFT SYSTEMS
Course Title:	**Unmanned Aircraft Systems**
Code:	**T3851AU**
NQF Level:	8
Contact hours:	4 lecture hours + 2 practical hours per week for one semester
Credits:	20
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	T3712AE

Course description: ICAO Regulatory Framework: Pilotless aircraft, Model aircraft Fundamentals, Regulatory framework, Case for harmonization, Safety management. **Overview of UAS:** History, General concept of operations, UAS Categories, Recent global developments, RPA system concept, UAS potential-civil/military operations, Expected evolution of the UAS civil/Military market, High seas operations, Environmental considerations. **Legal Matters:** Specific articles and their applicability to UAS. **Operations:** Aerodynamics, Rules of the air, Collision avoidance, Air traffic services Equipment, ATS/remote pilot communications, Aerodromes, Meteorological service, Security, Safe transport of dangerous goods by air, Search and rescue, Facilitation, Aircraft accident and incident investigation. **Aircraft and Systems:** Certification, Airworthiness, Remote pilot station(s), Nationality and registration marks, Radio navigation aids and airborne navigation equipment, Surveillance systems, Aeronautical communications, Aeronautical radio frequency spectrum, Aeronautical charts, Environmental protection. **Personnel:** Personnel licensing; Licensing and training for pilots and other members of the remote crew; Licensing and training for air traffic controllers.

T3812AL	AVIATION LOGISTICS
Course Title:	**Aviation Logistics**
Code:	**T3812AL**
NQF Level:	8
Contact hours:	4 lecture hours + 1 tutorial hour per week for one semester
Credits:	20
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	T3751AC

Course description: Airfreight logistics market overview: The market trend of airfreight volume worldwide, the opportunities and challenges ahead. **Air cargo demand:** Air commodities and modal choice; characteristics of demand for air cargo; and factors influencing the choice between air and other modes of transport; multi-modal operation; such as air-road and air-sea operations and their rationales. **Principle organizations and international policies/regulations of airfreight operations:** The international convention; Air Service Agreement; various regulatory and trade organizations. **Business models of air cargo carriers:** Combination carriers; passenger airlines and integrators; the types of aircrafts and the performance, and cost allocation to airfreight. **The contractual relationship of airfreight operations:** Airfreight forwarders; concept of consolidation; and air freight rates; types of documents being applied in airfreight; the application of Master Airway Bill and House Airway Bill; consolidation rate calculation; TACT rules and regulations, e.g. TACT rates; General Cargo Rate; Specific Cargo Rate; Class Rate; ULD Rate. **Other issues:** Airport facility and ground operation; air cargo security and safety.

T3832AH	HUMAN RESOURCES IN AVIATION
Course Title:	**Human Resources in Aviation**
Code:	**T3832AH**
NQF Level:	8
Contact hours:	4 lecture hours + 2 practical hours per week for one semester
Credits:	20
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 3 hours examination paper)
Prerequisites:	T3751AC

Course description: Introduction to Human Resource Management: Job Analysis and the Talent Management Process. **Personnel Planning and Recruiting** Employee Testing and Selection; Interviewing Candidates; Training and Developing Employees**. Performance Management and Appraisal. Labor Relations:** Laws and Collective Bargaining in the aviation industry. **Managing Aviation Global Human Resources.**

T3842AC	CORPORATE AVIATION OPERATION
Course Title:	**Corporate Aviation Operation**
Code:	**T3842AC**
NQF Level:	8
Contact hours:	2 lecture hours per week for one semester
Credits:	10
Course Assessment:	**50%** of the final mark consisting of a combination (or subset) of tests and quizzes (at least 3 hours in total), assignments and practical reports (at least 4 gradable items).
Examination	**50%** (1x 2 hours examination paper)
Prerequisites:	T3731AB

Course description: Role, development, and function of corporate aviation management: A Description of Corporate Aviation. **Evolution of Corporate Aviation:** Technology and Progress of Corporate Aviation; The Functions and Development of the Corporate Aviation Manager; Principles to Follow in Corporate Aviation Management; The Aviation Department Structure within the Corporation. **Economics:** Cost/Benefit Factors. Selecting the Corporate Aircraft: Corporate Flight Operations Management. **Corporate Aviation Maintenance:** Scheduling and Passenger Service. **Corporate Aviation Safety:** Corporate Aviation Security; Emergency and Pre-Accident Plans. **The Future of Corporate Aviation.**

E. DEPARTMENT OF MILITARY STUDIES

E.1. REGULATION PERTAINING TO UNDERGRADUATE STUDIES

E.1.1. ADMISSION REQUIREMENTS

The minimum entry requirements for admission into first year **BSc. in Military Geography 3 YEAR FULL TIME** are as follows:

Candidates must be NDF officers of the rank of Private – Capt./equivalent. In addition, all candidates must be recommended by the Ministry of Defence and Veteran Affairs (MoDVA). In addition to the admission requirement (1),

ADMISSION BASED ON NAMIBIAN SCHOOL LEAVING CERTIFICATES 2021 ONWARDS

A pass in five (5) different subjects as follows (minimum 27 points):

- 2 modules on NSSCAS level with an average "**d**" or Higher (Mathematics and Physics)
- 3 Subjects on NSSCO level with a "**C**" or higher (Geography/Development Studies inclusive).
- English must be at minimum "**C**" at NSSCO level.

OR

A pass in five different subjects as follows (minimum 27 points):

- 3 Subjects on NSSCAS level with an average "**d**" or Higher (Mathematics and Physics inclusive).
- 2 Subjects on NSSCO level with a **C** or higher (Geography/Development Studies inclusive).
- English must be at minimum **C** at NSSCO level.

The selection of candidates will be done based on the highest points on the UNAM evaluation scale guided by matters of equity as outlined by national policies (such as Gender and regional representation).

ADMISSION BASED ON NAMIBIAN SCHOOL LEAVING CERTIFICATES PRIOR TO 2021

Candidates in possession of a valid Namibian Senior Secondary Certificate (NSSC) issued **prior to 2021** and has a pass in 5 different subjects, as outlined below, can enroll in this programme:

EITHER

A pass in five (5) different subjects with as follows (minimum 27 points):

- 2 subjects on NSSCH with a **4** or higher (Mathematics and Physics),
- 3 subjects on NSSCO with **C** or higher (Geography /Development Studies inclusive), and additionally,
- English must be at minimum a **C** on NSSCO.

OR

A pass in five (5) different subjects with follows (minimum 27 points):

- 3 subjects on NSSCH with **4** or higher (Mathematics and Physics inclusive),
- 2 subjects on NSSCO with **C** or higher (Geography /Development Studies inclusive), and additionally,
- English must be at minimum a **C** on NSSCO.

E.1.2. ARTICULATION OPTIONS

Bachelor of Science in Military Geography may serve as entry point for the Bachelor of Science in Military (hons) and other related postgraduate diploma.

E.1.3. DURATION OF STUDY

The **Bachelor of Science in Military Geography degree programme** must be completed within a maximum of **5 years** of registration.

E.1.4. MODE OF DELIVERY

Bachelor of Science in Military Geography degree programme is offered on a mode(s) of delivery face-to-face, blended, **.** The mode of delivery consists of a combination of lectures, tutorials, lab practicals, research projects and industrial attachments. In order to be admitted to examinations, students are required to attend at least **80%** of the lectures and to

complete the required elements that make up the continuous assessment marks. Attendance of practical and tutorial classes is compulsory for all courses that have these components.

E.1.5. ASSESSMENT CRITERIA

Unless stated otherwise in the module descriptor, the following shall apply:
For modules assessed with Continuous Assessment (CA) and Examination,

- A minimum CA Mark of **40%** is required to gain entrance into the relevant module examination. Continuous assessment will come from: class tests, assignments, presentations, practical/laboratories and field drills and reports
- The final mark for each module will be calculated using a ratio of CA mark: Exam mark of **50: 50** and
- In order to pass a module, a minimum final mark of **50%** shall be required.
- Notwithstanding the above, a subminimum of at least **40%** will apply to the Exam Mark,

To qualify for a Supplementary Exam a final mark of **45 – 49**% is required

- A candidate must obtain a sub-minimum of **40%** in the examination to pass a module.

For 100% Continuous Assessment modules, a final aggregate mark of 50% shall be required to pass.

E.1.6. QUALITY ASSURANCE ARRANGEMENTS

The quality of the programme will be monitored by using the following methods:

- A mentorship programme will be implemented for students in this programme.
- Through monitoring of student performance, at risk students will be identified for possible intervention.
- Tracer studies shall be conducted to evaluate the viability and relevance of the programme and to obtain feedback from our graduates on their experience with respect to employment and further studies.
- All 1st-year modules shall be moderated **internally**, and all 2nd- and 3rd-year modules shall be moderated both **internally** and **externally**.
- For modules with examinations, examination papers, memoranda and scripts shall be moderated.
- For **100%** continuous assessment modules, at least **50%** of the assessments shall be moderated as per guideline above.
- Students will be accorded the opportunity to anonymously evaluate the teaching of the module.
- The programme shall be reviewed, and prescribed materials updated every five (**5) years**, or earlier, if the need arises.
- **To comply with the Namibia Qualifications Authority Act no. 29 of 1996 as well as the Higher Education Act no. 26 of 2003, the programme shall be submitted to the NQA for registration on the NQF and to the NCHE for accreditation.**

E.1.7. RE-ADMISSION REGULATIONS

NORMAL ENROLLMENT

To be **re-admitted** into the Bachelor of Science in Military Geography programme for a particular year of registration, a student must have passed the **minimum number** of courses as indicated below:

Normal enrolment:

- **54 credits** (of which 24 must be non-core) by the end of the first year of registration
- **106 credits** (of which 82 must be non-core) by the end of the second year of registration
- **132 credits** by the end of the third year of registration

The programme must be completed after a maximum of 5 years of registration EXTENDED ENROLMENT

E.1.8. ADVANCEMENT AND PROGRESSION RULES

A student advances to the following academic level of study when at least 2/3 of the modules of the curriculum for a specific year have been passed. If a student passed only 1/3 of the full curriculum of a specific year, he/she may not register for any modules of the following year. In all cases, prerequisites for modules have to be passed before a student can proceed to register for modules that require prerequisites.

Normal enrolment:

- Year 1 to Year 2: At least **78 credits** including the **UNAM Core**
- Year 2 to Year 3: **All first-year credits (128 credits)** in addition to at least **80 for second-year credits**

A student who fulfilled the **re-admission regulations** but could not advance to the next academic year must first register for **all failed modules**. Subject to **pre-requisites**, such a student may then **add modules** of the subsequent academic year, provided that the total number of registered credits does not exceed the prescribed number of credits of the current academic year by more than 20%.

A student who fulfilled the re-admission regulations but **could not advance to the next academic year must first register for all failed modules**. Subject to **pre-requisites**, such a student **may then add modules of the subsequent academic year**, provided that the total number of registered credits **does not exceed** the prescribed number of credits of the current academic year by more than **20%**.

E.1.9. REQUIREMENTS FOR QUALIFICATION AWARD

The Bachelor of Science in Military Geography will be awarded to a candidate with a minimum of **380** credits and who has met the compulsory modules prescribed for this program.

E.1.10. CAREER OPPORTUNITIES

Graduates would have an opportunity to work as:

- Military environment Officer
- Military operations officer
- Historian
- Academic career
- Military Analyst
- GIS and Remote Sensing
- Cartography

E.1.11. BACHELOR OF SCIENCE IN MILITARY GEOGRAPHY TABLE FOR ALL MODULES

Qualification: Bachelor of Science in Military Geography 34BSMG

Students opting for a **Bachelor of Science in Military Geography** must take all the following courses:

YEAR 1

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Skills Portfolio	U3403FS	NCB	None	None
1	Academic Literacy I	U3583AL	8	None	None
1	Digital Literacy	U3583DD	8	None	None
1	Military Ethics	T3520MG	2	None	None
1	Ethics and Morality	U3420EM	2	None	None
1	National and Global Citizenship	U3420CN	2	None	None
1	Leadership Skills	U3520LP	2	None	None
1	Calculus I	S3511MC	12	None	None
1	General Physics I	S3511PG	14	None	None
1	Concepts and Techniques in Military Geography	T3511MG	12	None	None
1	Fundamentals of Statistics	S3511SF	12	None	None
2	Calculus II	S3512MC	12	S3511MC	None
2	General Physics II	S3512PG	14	S3511PG	None
2	Physical Environment	T3512MG	14	None	None
2	Introduction to Physical Geography	T3532MG	14	None	None
Total Credits			**128**		

YEAR 2

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Academic Literacy II	U3683LB	8	None	None
1	Military Law	T3620MS	8	None	None
1	Entrepreneurship Skills	U3420RT	2	None	None
1	Sustainability and environmental awareness	U3420SE	2	None	None
1	Project management Skills	U3420PJ	2	None	None
1	Critical thinking	U3520TH	2	None	None
2	Electronics	S3611PE	16	None	None
2	Military History	T3611MG	14	None	None
2	Human Resource Management	T3641MG	8	None	None
2	Military Topography	T3631MG	8	T3512MG Physical Environment	None
2	Contemporary Political Relations	T3652MG	14	None	None
2	GIS and Remote Sensing I	T3672MG	16	S3512PG General Physics II	None
2	Economics	T3612MG	14	None	None
2	CWIE prep: 8	W3600MG	8	None	None
Total Credits			**130**		

YEAR 3

SEMESTER	MODULE NAME	MODULE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Workplace Attachment (6 weeks)	W3700MG	24	None	None
1	Military Psychology	T3731MG	16	None	None
1	GIS and Remote Sensing II	T3751MG	18	T3672MG GIS and Remote Sensing I	
1	Africa and International Political Economy	T3771MG	16	T3652MG Contemporary Political Relations	
2	Geography of Sub-Saharan Africa	T3732MG	16	None	None
2	Military Conduct & Environment	T3772MG	16	None	None
2	Military Management & Leadership	T3752MG	16	None	None
Total Credits			122		

E.1.12. BACHELOR OF SCIENCE IN MILITARY GEOGRAPHY COURSE DESCRIPTIONS

FIRST YEAR MODULES

T3511MG CONCEPTS AND TECHNIQUES IN MILITARY GEOGRAPHY

Module Title:	**CONCEPTS AND TECHNIQUES IN MILITARY GEOGRAPHY**
Module Code	**T3511MG**
NQF Level	**5**
Notional Hours	**120**
Contact hours	**4 hours per week for one semester**
NQF Credits	**12**
Prerequisite	**None**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 2-hour paper): 50%. Minimum mark to pass the course: 50%.

Course description: The origin: nature and traditions of geography. Impact of man on the environment. Population geography: cultural, urban and economic geography. Military geography. Geography of natural resources: regional concept and geography of spatial behaviour.

T3532MG INTRODUCTION TO PHYSICAL GEOGRAPHY

Module Title:	**INTRODUCTION TO PHYSICAL GEOGRAPHY**
Module Code:	**T3532MG**
NQF Level:	**5**
Notional Hours:	**140**
Contact hours:	**4hours lectures and one practical session per week for one semester: Additional learning requirements: Excursion**
NQF Credits:	**14**
Prerequisite:	**None**
Course Assessment:	Continuous assessment (Minimum of 2 tests, 3 practical reports and 2 assignments): 50%. Written examination (1 × 2-hour paper): 50%. Minimum mark to pass the course: 50%.

Course description: Earth: movements and seasons. Basic facts and mappings. The varieties of surface form: how surface form develops, plains, surfaces rougher than plains, the margins of the land. Introduction to climate: air temperature and solar energy, the circulation of the atmosphere, winds and pressure, precipitation. Hydrosphere, Namibian weather and climate. Climatological data: synoptic weather charts and climogrammes. Atmospheric disturbances: air masses and fronts. Classification of climates and their distribution: the tropical humid climates, the dry climates, humid mesothermal climates, humid microthermal, polar, and highland climates. Water and the seas: the waters of the land. Natural vegetation and soils.

T3512MG PHYSICAL ENVIRONMENT

Module Title:	**PHYSICAL ENVIRONMENT**
Module Code:	**T3512MG**
NQF Level:	**5**
Notional Hours:	**140**
Contact hours:	**4hours lectures and one practical session per week for one semester. Additional learning requirements Excursion**
NQF Credits:	**14**
Prerequisite:	**None**
Course Assessment:	Continuous assessment (Minimum of 3 tests, 3 practical reports and 2 assignments): 50%. Written examination (1 × 2-hour paper): 50%. Minimum mark to pass the course: 50%.

Course Descriptions: Internal structure of the earth: endogenesis of continental, sub-continental and regional scale. Exogenetic processes: weather, mass wasting, fluvial, ground water and karst topography and wind in arid regions. Ocean processes: tides, waves, sea currents, coastal and landform. South African/Namibian geomorphology: landscape, terrain and contour. Stream orders, profiles, slopes and aerial photos

SECOND YEAR MODULES

T3620MS MILITARY LAW

Module Title:	**MILITARY LAW**
Module Code:	**T3620MS**
NQF Level:	**6**
Notional Hours:	**80**
Contact hours:	**2hours lectures per week for one semester.**
NQF Credits:	**8**
Prerequisite:	**None**
Course Assessment:	Continues assesment (Minimum of three tests and three assignments): 50%. Minimum Mark to pass the module: 50%.

Course Descriptions: General introduction to the study of law: The nature and essence of the law; classification of the Namibian law; sources of law; jurisprudence in general. Military Law: Introduction and application; jurisdiction of civil courts; establishment of military courts; military offences; convening authorities; different military courts and its jurisdiction; boards of inquiry; preliminary investigations (PI) and military police investigations; pre-trial procedures; redress of wrongs. Military courts: determining the trial court; duties of the court and officials; procedures; rights of the accused; recording of proceedings; sentencing; confirmations and reviews; right to the review of proceedings. State of emergency in terms of the Namibian Constitution. Defence Act relating to being on service. Status of Force Agreements (SOFA); Memorandum of Understanding (MoU); conduct of visiting forces; Historical background of International Humanitarian Law (IHL), The Geneva Conventions Act, 2003 and International Humanitarian Laws: crimes against humanity; war Crimes; command responsibilities.

T3611MG MILITARY HISTORY

Module Title:	**MILITARY HISTORY**
Module Code:	**T3611MG**
NQF Level:	**6**
Notional Hours:	**140**
Contact hours:	**4 lecture periods per week for the semester.**
NQF Credits:	**14**
Prerequisite:	**None**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 3-hour paper): 50%. Minimum mark to pass the course: 50%.

Course Descriptions: Introduction to the study of Military History: Basic Concepts in Military History, Military History and Military Professionalism, Evolution of World Military History: Warfare in Antiquity and Medieval Warfare, Warfare in Modern Era, Causes of WW1 and WW2, Continental War Campaigns, War in Imperial Defence, South African Defence Force since 1957 to 1994, the SANDF since 1994, the South African/ Namibian military Historiography, Introduction to War of Resistance and War of Liberation, Integration and Transformation of the NDF since 1990, War and Technology: Revolution in military technology and the influence of Technology on Conventional Warfare.

T3641MG MILITARY HUMAN RESOURCES MANAGEMENT

Module Title:	**HUMAN RESOURCES MANAGEMENT**
Module Code:	**T3641MG**
NQF Level:	**6**
Notional Hours:	**80**
Contact hours:	**2hours lectures per week for one semester.**
NQF Credits:	**8**
Prerequisite:	**None**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 3-hour paper): 50%. Minimum mark to pass the course: 50%.

Course Descriptions: Introduction to the study of Military History: Basic Concepts in Military History, Military History and Military Professionalism, Evolution of World Military History: Warfare in Antiquity and Medieval Warfare, Warfare in Modern Era, Causes of WW1 and WW2, Continental War Campaigns, War in Imperial Defence, South African Defence Force since 1957 to 1994, the SANDF since 1994, the South African/ Namibian military Historiography, Introduction to War of Resistance and War of Liberation, Integration and Transformation of the NDF since 1990, War and Technology: Revolution in military technology and the influence of Technology on Conventional Warfare.

T3631MG MILITARY TOPOGRAPHY

Module Title:	**MILITARY TOPOGRAPHY**
Module Code;	**T3631MG**
NQF Level:	**6**
Notional Hours:	**160**
Contact hours:	**4 hours lectures and one practical session per week for one semester: Additional learning requirements Excursions**
NQF Credits:	**16**
Prerequisite:	**T3512MG Physical Environment**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 2-hour paper): 50%. Minimum mark to pass the course: 50%.

Course Descriptions: Topographic maps and projections: distance measurement, symbols, and map coordinates. Global Map projections: different types of projections and the southern and northern hemispehres classifications. Develop digital inter-visibility matrix and terrain profile: steepness of slope and point of variance between two places. Vertical Exaggeration. Calculations and manipulation: using the GIS software "Integration". Digital Terrain Models: development and uses of various DTMS. Soil Classification Model and systems.

T3652MG CONTEMPORARY POLITICAL RELATIONS

Module Title:	**CONTEMPORARY POLITICAL RELATIONS**
Module Code:	**T3652MG**
NQF Level:	**6**
Notional Hours:	**140**
Contact hours:	4hours lectures per week for one semester. Additional learning requirements: Field trip
NQF Credits:	**14**
Prerequisite:	**None**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 3-hour paper): 50%.Minimum mark to pass the course: 50%.

Course Descriptions: Introductory framework: world events, use of force, international relations. Methodologies in Contemporary Political Relations: Democratic Peace phenomenon, Decision making, international politics and international crises.

T3672MG GIS AND REMOTE SENSING I

Module Title:	**GIS AND REMOTE SENSING I**
Module Code:	**T3672MG**
NQF Level:	**6**
Notional Hours:	**160**
Contact hours:	**4hours lectures and one practical session per week for one semester**: **Additional learning Requirements: Excursion**
NQF Credits:	**16**
Prerequisite:	**S3512PG General Physics II**
Course Assessment:	Continuous Assessment 50% (written Tests, practicals, presentations, Field trips, Assignments and Homework). Written examination 50% (1x 3 Hours Theory paper). Minimum mark to pass the course: 50%.

Course Description: Geographic Information Systems: Introduction to information systems and GIS, Functions and Advantages of GIS, Military Applications of GIS: Usage of GIS in the Army, Navy and Maritime Operations and the Air force, GIS layers, Concept of Map: Coordinate System and Projection. GIS Data Representation: Attribute tables, Maps and themes (GIS output). Remote Sensing and its integration in GIS. Remote Sensing basic principles, Remote Sensing platforms and sensors, Basics of Digital image processing: interpretation of remote sensing data, Application of Remote Sensing in Military.

T3612MG ECONOMICS

Module Title:	**ECONOMICS**
Module Code:	**T3612MG**
NQF Level:	**6**
Notional Hours:	**140**
Contact hours:	**4 Lecture Periods Per Week per Semester)**
Nqf Credits	**14**
Prerequisite:	**None**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 3-hour paper): 50% Minimum mark to pass the course: 50%

Course description: Micro-economics: Overview of economic systems. Theory: demand and supply. Elasticity: price, income, demand and supply. Background: utility, consumer equilibrium, budget line. Production theory and cost: basic cost and profit cost, long run and short run cost. Government intervention. Macro-economic: policy objectives and economic analytical models. Public sector: role of government in economy, government intervention and market failure, spending and taxation. Monetary policies: money, financial intermediaries, demand and supply of money, instrument of monetary policy. Defence economics: functions of the defence industry, national and defence budgets, economic warfare, labor economics. Economic systems and thoughts: capitalism, socialism, mixed economy, pre-classical and neo-clasical thought. International trade: comperative and absolute advantage. Instrument of trade policy. Exchange: foreign markets, foreign exchange policy or regimes. International finace and debts crisis. Terms of trade: ratio of import and export price. Economic development: measurement of economic growth, business cycle and sources of economic growth.

THIRD YEAR MODULES

T3731MG MILITARY PSYCHOLOGY

Module Title:	**MILITARY PSYCHOLOGY**
Module Code:	**T3731MG**
NQF Level:	**7**
Notional Hours:	**160**
Contact hours:	**4hours lectures per week for one semester**
NQF Credits:	**16**
Prerequisites:	**None**
Course Assessment:	Continuous assessment (Minimum of 2 tests and 2 assignments): 50%. Written examination (1 × 3-hour paper): 50% Minimum mark to pass the course: 50%.

Course Description: Personality theory and war: role of personality and personality theory of Jung, adjustment psychology: maladjustment and adolescent, transition in military training. Operational psychology: psychological effects of combat, post-traumatic stress disorder. Peacekeeping psychology: model to support soldiers and their dependents, stressors and prisoner of war. Psychological warfare: ethics in war operations.

T3771MG AFRICA AND INTERNATIONAL POLITICAL ECONOMY

Module Title:	**AFRICA AND INTERNATIONAL POLITICAL ECONOMY**
Module Code:	**T3771MG**
NQF Level:	**7**
Notional Hours:	**160**
Contact hours:	**4hours lectures and one practical session per week for one semester**
NQF Credits:	**16**
Prerequisite:	**T3652 Contemporary Political Relations**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 3-hour paper): 50%.Minimum mark to pass the course: 50%.

Course Description: Political economy: characteristics of the world economic system, the evolution of the international political economy, Africa's contemporary economic history, Internal and external causes of economic decline in Africa. the NEPAD strategy, successful states in the Developing World, U.S.A. foreign aid after September 11, war economies: the U.S.A, China and Africa in contemporary-political economic context. The role of natural resource conflict: Sudan, Angola and Sierra Leone.

T3732MG GEOGRAPHY OF SUB-SAHARAN AFRICA

Module Title:	**GEOGRAPHY OF SUB-SAHARAN AFRICA**
Module Code:	**T3732MG**
NQF Level:	**7**
Notional Hours:	**160**
Contact hours:	**4hours lectures per week for one semester: Additional learning requirements: Excursion**
NQF Credits:	**16**
Prerequisite:	**None**
Course assessment:	Continuous Assessment 50% (written Tests, presentations, Field trips, Assignments and Homework) written examination 50% (1x 3 Hours Theory paper). Minimum mark to pass the course: 50%.

Course Description: Landscape: physical and political. Geography: population, medical and urban. Historical background: culture, conflict and change. Agriculture development, human impact on the environment, natural resources, Geographical report writing about the region.

T3772MG MILITARY CONDUCT & ENVIRONMENT

Module Title:	**MILITARY CONDUCT & ENVIRONMENT**
Module Code:	**T3772MG**
NQF Level:	**7**
Notional Hours:	**160**
Contact hours:	**4hours lectures per week for one semester**
NQF Credits:	**16**
Prerequisite:	**None**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 2-hour paper): 50%. Minimum mark to pass the course: 50%.

Course Description: Military actions. Environment: theories and systems. Environmental: management, resources, conflict, urban and related problems. Law: South African and Namibian. Data capturing techniques: sampling techniques, questionnaires and workshops. Data processing and interpretation. Procedure for the environmental impact assessment

T3752MG MILITARY MANAGEMENT & LEADERSHIP

Module Title:	**MILITARY MANAGEMENT & LEADERSHIP**
Module Code:	**T3752MG**
NQF Level:	**7**
Notional Hours:	**160**
Contact hours:	**4hours lectures per week for one semester**
NQF Credits:	**16**
Prerequisite:	**N one**
Course Assessment:	Continuous assessment (Minimum of 3 tests and 2 assignments): 50%. Written examination (1 × 2-hour paper): 50%. Minimum mark to pass the course: 50%.

Course Description: Leadership processes: Leadership ethics, types and style of leadership, roles and ethics of commander, obedience and order, application of military ethics, code of conduct of the NDF and the Constitution of Namibia. Management: general, environment and diversity. Planning: skills, creative problem solving, strategy and operational processes and organizing skills. Organizing and delegation: management of change, power, conflict and stress, control of human resources and finance controls in organization.

T3751MG GIS AND REMOTE SENSING II

Module Title:	**GIS AND REMOTE SENSING II**
Module Code:	**T3751MG**
NQF Level:	**7**
Notional Hours:	**180**
Contact hours:	**4hours lectures per week and one 3-hour practical session per week for one semester: Additional learning requirements : Excursion**
NQF Credits:	**18**
Prerequisite:	**T3672MG GIS & Remote Sensing I**
Course Assessment:	Continuous Assessment 50% (written Tests, presentations, Field trips, Assignments, Homework and practical reports).Written examination 50% (1x 3 Hours Theory paper). Minimum mark to pass the course: 50%.

Course Description: Geographic Information Systems: Data entry and preparation (Spatial data collection). Spatial problem analysis: spatial data analysis, Concept of Metadata: Roles of Metadata in GIS. Remote Sensing and its integration in GIS: Overview of advances in satellite technology in the Military, Data acquisition, image formats and conversion. Geometric and Radiometric correction, Digital Image interpretation and analysis, Fundamentals of DEM generation and quality assessment.

E.2. POSTGRADUATE PROGRAMMES

E.3. POSTGRADUATE DIPLOMA IN SECURITY AND STRATEGIC STUDIES -1 YEAR FULL-TIME

The one-year Postgraduate Diploma in Security and Strategic Studies (PGDSSS) programme is designed to develop a foundation for strategic thinking and problem-solving competencies that are indispensable to solving highly complex security and strategic issues. It provides graduates with knowledge and skills preparatory to advanced studies and work in defence, safety and security environment. The programme aligns closely with the national, regional and international vision of ensuring an atmosphere of peace, security, better life and democracy.

E.4. ADMISSION REQUIREMENTS

Students may be admitted to this programme if they meet the General Admission Requirements of UNAM and comply with additional requirements as follows:

- Prospective students must be in possession of a Bachelor's degree NQF Level 7 within the social sciences field of study or students must be in possession of a Bachelor's degree NQF Level 7 or higher from any other field of study but working with the security cluster.
- Prospective students whose academic qualifications are not in the social sciences may be required to write a submission to motivate their wish to be admitted into the PGDSSS.

E.4.1. ADDITIONAL ADMISSION

Where too many students qualify for the programme and the Department can only admit a certain number due to space and capacity limitations, the following criteria will be followed:

- Preference will be given to MoDVA and other security cluster institutions recommended students.
- Secondly, preference will also be given to applicants with background in the social sciences. However, where there are too many students that qualify for admission, the Department will administer a placement test to eligible candidates whereby 60% pass mark will be required.

E.4.2. DURATION OF STUDY

1-year programme

E.4.3. MODE OF DELIVERY

Blended mode

E.4.4. ASSESSMENT CRITERIA

A minimum continuous assessment (CA) mark of **40%** is required in order to qualify for examination. The final mark for each module will be calculated using a ratio of CA mark: examination mark of 50:50. In order to pass a module, a sub-minimum of **40%** must be obtained in the examination with a final mark of **50%.** Students must attain a minimum of **0-49%** final mark to qualify for a Second Opportunity Examination, unless otherwise stated in the individual module descriptor.

E.4.5. MINIMUM REQUIREMENTS FOR RE-ADMISSION INTO THE SCHOOL/PROGRAMME

To be re-admitted to this programme, a student must have successfully completed the following minimum number of credits as indicated below:

- **45 credits** by the end of the first year of registration.
- The programme must be completed after a maximum of **2 years** of registration.

E.4.6. ADVANCEMENT AND PROGRESSION RULES

Not applicable as this is a one-year programme.

E.4.7. REQUIREMENTS FOR QUALIFICATION AWARD

This qualification will be awarded to candidates credited with a minimum of **129 credits** and who have met all other relevant UNAM requirements.

E.5. ARTICULATION ROUTES

This qualification may serve as an entry point to a master degree at NQF Level 9 in security or related fields.

E.6. POSTGRADUATE DIPLOMA IN SECURITY AND STRATEGIC STUDIES TABLE OF ALL MODULES

Qualification: Postgraduate Diploma in Security and Strategic Studies 34PDSS

Students opting for a **Postgraduate Diploma in Security and Strategic Studies** must take all of the following courses:

YEAR 1

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES/COREREQUISITE	COMPULSORY/ELECTIVE
Year 1 Semester 0					
1	Academic Writing for Post-Graduate Students	U3583AL	0	None	C
1	Construct of Security	T5821MC	9	None	C
1	Research Methodology and Proposal Writing	T5811MR	14	None	C
1	Contemporary World Politics	T5811MC	18	None	C
1	Strategic Studies and Management	T5831MS	18	None	C
1	Public Policy Analysis	T5841MP	9	None	C
TOTAL CREDITS SEMESTER 1					**68**
YEAR 1 SEMESTER 2					
2	Security Sector and Democracy	T5852MS	18	None	C
2	Public Safety and Rule of Law	T5812MP	18	None	C
2	Research Project	T5892MR	16	Research Methodology &Project Proposal (TS811MR)	C
ELECTIVES: SELECT ONLY ONE					
2	Diplomatic Studies	T5842MD	9	None	E
2	Military History	T5862MM	9	None	E
2	Environmental Political Economy	T5802ME	9	None	E
TOTAL CREDITS SEMESTER 2					**61**
TOTAL CREDIT YEAR 1					**129**

E.7. POSTGRADUATE DIPLOMA IN SECURITY AND STRATEGIC STUDIES MODULE DESCRIPTIONS

T5821MC **Construct of Security**

Course Title: **Construct of Security**
Code: **T5821MC**
NQF Level: **8**
Contact hours: 2 lecture hours per day for 3 weeks.
Credits: **9**
Course Assessment: **50%** continuous assessment (minimum of one test, one seminar presentation and one assignment).
50% written examination (1 x 2 hours examination paper).
Prerequisites: None
Course description: The **concept of state**- modern state/Westphalia; types of state; features of the State; the social contract theories; **security as a social construct**; cold war conception of security-national/state security; contemporary conception of security- **human security**; differences between national security and human security; the nexus between state and human security; **the widening of the construct of security and a range of security referents**, (such as public safety and security, gender and security, cyber security and maritime safety and security); **state and human security policies**, human security and human development; human security fractures/issues from southern Africa.

T5811MR	Research Methodology and Proposal Writing
Course Title:	**Research Methodology and Proposal Writing**
Code:	**T5811MR**
NQF Level:	**8**
Contact hours:	4 lecture hours per day for 3 weeks.
Credits:	**14**
Course Assessment:	**50%** continuous assessment (minimum of three assignments and one seminar presentation). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None
Course description:	The nature and need for research in security and strategic studies. **Scientific methods of inquiry**; **research methods and design**: qualitative and quantitative research methods; selection of research topics; **writing a research proposal**; **conducting a literature review**; sampling methods; design of questionnaires; interviews and observation techniques; **independent and dependent variables**; correlation and causation; validity of conclusions; **Statistical methods of data evaluation and data analysis**; methods of presenting data and conclusions; report writing; ethical considerations in research.

T5811MC	Contemporary World Politics
Course Title:	**Contemporary World Politics**
Code:	**T5811MC**
NQF Level:	**8**
Contact hours:	4 lecture hours per day for 3 weeks.
Credits:	**18**
Course Assessment:	**50%** continuous assessment (minimum of one test, one seminar presentation and 2 assignments). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None
Course description:	**Introduction to competing theories and practices of contemporary world politic**s; international politics before and since the cold war; the effects of the cold war on the globe; **African struggles for independence and the post-cold war era**; multi-polarity; globalization, **conflict and security in the international system**; regional and global security co-operation; regional integration; evolving security communities; governance of global and regional security.

T5831MS	Strategic Studies and Management
Course Title:	**Strategic Studies and Management**
Code:	**T5831MS**
NQF Level:	**8**
Contact hours:	4 lecture hours per day for 3 weeks.
Credits:	**18**
Course Assessment:	**50%** continuous assessment (minimum of one test, one seminar presentation and 2 assignments). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None
Course description:	**The nature and complexity of strategy**; relationship between strategic studies and security studies; **strategic theory** – the logic of strategy; **the strategy process** – national security objectives, dimensions of strategy; **strategic culture** – sources of strategic culture, constructivism and strategic culture; **strategy and defence planning** – strategy, politics, and defence planning; approaches to defence planning; guidance for defence planning; **the practice of strategy** – nature and character of strategy, making strategies, executing strategies; critics and the future of strategic studies; **strategic management overview and environmental scanning**.

T5841MP	Public Policy Analysis
Course Title:	**Public Policy Analysis**
Code:	**T5841MP**
NQF Level:	**8**
Contact hours:	2 lecture hours per day for 3 weeks.
Credits:	**9**
Course Assessment:	**50%** continuous assessment (minimum of two assignments and one seminar presentation). **50%** written examination (1 x 2 hours examination paper).
Prerequisites:	None
Course description:	**Definition of policy**; content and operational scope of public policy; **policy theories and typologies**; the rationale behind policy formulation; knowing who the **policy stakeholders** are and what roles they play in the policy process; and the synergy between **public policy formulation and formation**.

T5852MS	Security Sector and Democracy
Course Title:	**Security Sector and Democracy**
Code:	**T5852MS**
NQF Level:	**8**
Contact hours:	4 lecture hours per day for 3 weeks.
Credits:	**18**
Course Assessment:	**50%** continuous assessment (minimum of one test, one seminar presentation and 2 assignments). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None
Course description:	**Democratic governance and the security sector**; components of the security sector; roles and functions of the security sector; the architecture and locus of the security sector and its relationships to the justice sector and other relevant sectors. **Regional security challenges;** the African Peace and Security Council and its supportive structures; the evolving security architecture of SADC (the Organ on Politics, Defence and Security Co-operation). **The global security environment in the post-cold war world**; the 'War on Terror' and its implications for the security sector; democratic governance and its implications; the roles of the executive, the roles of the judiciary, the legislature, ministries, government departments; post-conflict peace-building and reconstruction; **key challenges in the security sector**; justice and peacekeeping; intelligence and defence; Namibian defence and democracy.

T5812MP	Public Safety and Rule of Law
Course Title:	**Public Safety and Rule of Law**
Code:	**T5812MP**
NQF Level:	**8**
Contact hours:	4 lecture hours per day for 3 weeks.
Credits:	**18**
Course Assessment:	**50%** continuous assessment (minimum of one test, one seminar presentation and 2 assignments). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None
Course description:	**Public safety** – crime considered as threats to public safety, crime prevention strategy; **police and harm reduction** – harm reduction policing, outcomes of harm reduction policing; strategies for implementing harm reduction; **oversight and accountability of policing**; **rule of law – theories of criminology**, classicism/positivism; **constitutional law**; **principles of rule of law**; **fundamental human rights and freedoms**; **political control**; **oversight and reform of the justice system**.

T5892MR	Research Project
Course Title:	**Research Project**
Code:	**T5892MR**
NQF Level:	**8**
Contact hours:	Regular consultations with the supervisor(s).
Credits:	**16**
Course Assessment:	**100%** continuous assessment (30% presentation of research project and 70% marked research project).
Co-requisites:	Research Methodology and Proposal Writing (T5811MR)
Course description:	Students are to conduct academic research in the area of security and strategic studies by using the skills they acquire from the research methodology and proposal writing module.

T5842MD	Diplomatic Studies
Course Title:	**Diplomatic Studies**
Code:	**T5842MD**
NQF Level:	**8**
Contact hours:	2 lecture hours per day for 3 weeks.
Credits:	**9**
Course Assessment:	**50%** continuous assessment (minimum of two assignments and one test). **50%** written examination (1 x 2 hours examination paper).
Prerequisites:	None
Course description:	**Diplomacy and international studies;** diplomatic history, multilateral, bilateral, summitry, institutional; **foreign policy analysis;** policy process; factors affecting policy making, political actors; international law; jurisprudence; **diplomatic theory; seminal contributions to diplomatic theory; diplomatic issues** (current issues, capita Selecta; diplomatic practice; legal framework; institutional and functional framework; unconventional diplomatic actors and methods; diplomatic form); **negotiation and mediation;** new diplomatic specializations (capita Selecta: preventive, economic, consular, environmental and public diplomacy).

T5862MM	Military History
Course Title:	**Military History**
Code:	**T5862MM**
NQF Level:	**8**
Contact hours:	2 lecture hours per day for 3 weeks.
Credits:	**9**
Course Assessment:	**50%** continuous assessment (minimum of two assignments and one test). **50%** written examination (1 x 2 hours examination paper).
Prerequisites:	None
Course description:	**Introduction to global military history**; World War I and World War II; the Cold War; **conventional thinking and warfare** in the air; land and maritime environment; **the nature of military force and its conventional use in domestic and international environment**; war and politics; war and economy; war and society; low intensity conflicts in Africa; intra-state conflicts in Africa; terrorism; peacekeeping; **theory and practice of internal conflict,** struggle for political power in Namibia and the Namibian Defence Force since 1990.

T5802ME	Environmental Political Economy
Course Title:	**Environmental Political Economy**
Code:	**T5802ME**
NQF Level:	**8**
Contact hours:	2 lecture hours per day for 3 weeks..
Credits:	**9**
Course Assessment:	**50%** continuous assessment (minimum of two assignments and one test). **50%** written examination (1 x 2 hours examination paper).
Prerequisites:	None
Course description:	**Theoretical approaches to the study of International Political Economy**; globalized economy and patterns of inequality; food security; economic liberalization and globalization; **implications and responses of the trade-offs** between biofuels(energy security) and livelihood (food security); **climate variability and change**, competition for resources such as land, water, etc, Adaptation policy and strategic responses**; natural and other hazards**, e.g. epidemics, floods, cyclones, fires, earthquakes, etc, and their impacts; food vulnerability and differentiated impacts- focusing on among others on need of children, the elderly and women.

E.8. MASTER OF ARTS IN SECURITY AND STRATEGIC STUDIES

The purpose of this qualification is to provide students with advanced knowledge and skills in defence and diplomacy, leadership strategy, intelligence gathering and analysis and translational research necessary for careers in the defence, safety and security sector as a way of ensuring an atmosphere of peace and security, better life and democracy in Namibia and the world; and in fulfilment of Sustainable Development Goals (SDGs) number 16 - *to promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable, and inclusive institutions at all levels*.

E.8.1. ADMISSION REQUIREMENTS

Students may be admitted to this programme if they meet the General Admission Requirements of UNAM and comply with additional requirements below:

A student must be in possession of a Bachelor Honours degree or postgraduate diploma at NQF level 8 in Military Sciences or in the Social Sciences, preferably Political Science, International Relations, Public Administration, Economics, Sociology, and Diplomatic History with at least a 60% (C-grade) average, to be admitted into the programme.

E.8.2. ADDITIONAL SELECTION CRITIERIA

Where too many students qualify for admission into the programme and the Department can only admit a certain number due to space and capacity limitations, the following criteria will be followed: preference will be given to MoDVA and other security cluster institutions recommended students. Additionally, the Department will administer a placement test to all eligible candidate whereby 60% pass mark will be required.

E.8.3. DURATION OF STUDY

2 years

E.8.4. MODE OF DELIVERY

Blended mode

E.8.5. ASSESSMENT CRITERIA

All coursework modules require a minimum continuous assessment (CA) mark of 40% in order to qualify for examination. The final mark for each module will be calculated using a ratio of CA mark: examination mark of 50:50. In order to pass a module, a sub-minimum of 40% must be obtained in the examination with a final mark of 50%. Students must attain a minimum of 0-49% final mark to qualify for a Second Opportunity Examination, unless otherwise stated in the individual module descriptor.

The Thesis shall be examined by at least two examiners approved by the Higher Degrees Committee, whereby one of the examiners must be external to the University of Namibia, except where the student is a staff member, in which case all the examiners must be external. To pass the thesis, students must obtain a minimum final mark of 50% from each examiner and the final thesis marks will be the average from the two examiners' marks as per the University of Namibia's Higher Degrees Policy regulations. The composite mark for the programme will be calculated using a ratio of 50:50 constituting of coursework average and final thesis mark.

E.8.6. MINIMUM REQUIREMENTS FOR RE-ADMISSION INTO THE SCHOOL/PROGRAMME

Normal enrollment

To be re-admitted into the School of Military Science, and the 34MASS programme in particular, a student must have successfully completed a minimum number of 60 credits by the end of the first year of registration. At the end of the second year of registration, a student must obtain a minimum of 96 credits. In the third year of registration, a student must have obtained a minimum of 120 credits, and by the fourth year of registration, a student must have obtained all 240 credits. The programme must be completed after a maximum of 4 years of registration.

E.8.7. ADVANCEMENT AND PROGRESSION RULES

Year 1 to Year 2: A student should have a minimum of 84 credits by the end of first year of registration including a pass in Applied Research Methodology (T6942MA).

E.8.8. REQUIREMENTS FOR QUALIFICATION AWARD

This qualification will be awarded to candidates credited with a minimum of 240 credits, and who have met all other relevant UNAM requirements.

E.8.9. ARTICULATION ROUTES

A student without a background in Military Sciences, Political Science, International Relations, Public Administration, and Economics, Sociology, or Diplomatic History or whose qualification has been determined by the NQA as not comparable or equivalent to Namibia's Bachelor Honours degree may be required to do the one-year Postgraduate Diploma in Security and Strategic Studies to articulate into the Master's programme.

E.8.10. MASTER OF ARTS IN SECURITY AND STRATEGIC STUDIES TABLE OF ALL MODULES

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES/COREREQUISITE	COMPULSORY/ELECTIVE
Year 1 Semester 1					
1	Academic Writing for Post-Students	U3583AL	NCB (18)	None	C
1	Africa and International Relations	T6931MA	24	None	C
1	Strategic Forecasting and Risk Analysis	T6951MS	24	None	C
1	Security Sector Policy Analysis	T6921MS	12	None	C
Total Credits Semester1					**60**
Year 1 Semester 2					
2	National Security and Sustainable Development	T6932MN	24	None	C
2	Strategic Intelligence	T6932MS	24	None	C
2	Applied Research Methodology	T6942MA	12	None	C
Total Credits Semester 2					60
Total credits Year1					**120**
Year 2 Semester 1 & 2					
1&2	Thesis	T6973MT	120	Applied Research Methodology (T6942MA)	C
Total Credits Semester 1&2					**120**
Total Credits YEAR 2					**120**
Programme total Credits					**240**

E.8.11. MASTER OF ARTS IN SECURITY AND STRATEGIC STUDIES MODULE DESCRIPTOR

U3583AL	**Academic Writing for Postgraduate Students**
Course Title:	**Academic writing for Postgraduate Students**
Code:	**U3583AL**
NQF Level:	**9**
Contact hours:	4 lecture hours per weeks
Credits:	**24**
Course Assessment:	**50%** of the final mark consisting of a minimum of 3 (three) assessments
Examination	**50%** (3 hours examination paper)
Prerequisites:	None

Course description: Empower students with skills and knowledge to access and critique academic sources and to synthesize information from these sources to assist them in the substantiation and development of their own claims when writing academic papers in their respective fields of specialization.

T6931MA	**Africa and International Relations**
Course Title:	**Africa and International Relations**
Code:	**T6931MA**
NQF Level:	**9**
Contact hours:	4 lecture hours per day for 3 weeks.
Credits:	**24**
Course Assessment:	**50%** continuous assessment (minimum of two assignments, one test, one seminar presentation and a role play). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None

Course description: **Africa in mainstream international relations theories**- classical realism, liberalism, neo-realism and neo-liberalism, rationalism and reflectivism, economic structuralism; coloniality and decoloniality. **African diplomacy**, **Africa and rest of the world** – Global north relations; Global south relations. **Comparative foreign policy of African states**; African political economy in an age of globalization; debt crisis; new regionalism in Africa; Africa and global security; state failures in Africa; the changing nature of war – insurgency, international terrorism; **African peace and security architecture**- structures and processes; **environmental issues in Africa**- climate change, resource control.

T6951MS	**Strategic Forecasting and Risk Analysis**
Course Title:	**Strategic Forecastic and Risk Analysis**
Code:	**T6951MS**
NQF Level:	**9**
Contact hours:	4 lecture hours per day for 3 weeks
Credits:	**24**
Course Assessment:	**50%** continuous assessment (minimum of two assignments, case studies and book reviews, one seminar presentation, and a role play). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None

Course description: **Contextualization of forecasting** – meaning, uses and techniques of forecasting; **policy and planning context** – strategic forecasting, policy planning; **proactive engagement** – strategic forecasting and proactive engagement, scenario approaches to strategic forecasting, scenario construction – the construction of scenarios; **scenario application** – creating a shared view of the future, using scenario for policy management, and communicating scenarios; **scenario case studies** – critical assessments of scenario case studies; **risk analysis** – the meaning of risk and the use of risk analysis, political risk analysis, country risk analysis, related type of risk analysis, risk indicators; **approaches to risk analysis** – applicability and suitability of risk analysis approaches in the security environment – security related issues involving ICT; **frameworks for risk analysis** – framework for country and political risk analysis, comparisons of contending risk analysis frameworks; **risk analysis case studies** – analysis and critical assessments of risk-analysis case studies.

T6921MS	**Security Sector Policy Analysis**
Course Title:	**Security Sector Policy Analysis**
Code:	**T6921MS**
NQF Level:	**9**
Contact hours:	2 lecture hours per day for 3 weeks.
Credits:	**12**
Course Assessment:	**50%** continuous assessment (minimum of two assignments, one seminar presentation, and a role play). **50%** written examination (1 x 2 hours examination paper).
Prerequisites:	None

Course description: **Policy analysis**; **public policy cycle** – agenda setting, formulation, implementation, evaluation and monitoring. **Public finance and the security sector** – national budget and the security sector, the budget cycle and the security sector, **public expenditure and financial accountability**; **public financial management in the security sector** – budget reliability, transparency of public finances, and control in budget execution.

T6932MN	National Security and Sustainable Development
Course Title:	**National Security and Sustainable Development**
Code:	**T6932MN**
NQF Level:	**9**
Contact hours:	4 lecture hours per day for 3 weeks.
Credits:	**24**
Course Assessment:	**50%** continuous assessment (minimum of two assignments, one test, one seminar presentation and a role play). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None
Course description:	**Theoretical approaches to security; development theories**- underdevelopment; **link between security and development**; concept, typology of security, security regimes; security communities, changing security in a changing world; **oversight of the security sector** - national defence forces, national intelligence, private military and private security; **elements of national security**: military, political, economic, environment and security of energy and natural resources; **collective security**; **studies in Africa security cooperation**; **Peace and Security Architecture of African Union**; security issues, ethnicity, ethnic conflict and security infrastructure, national security threats, terrorism, espionage, proliferation of weapons, economic espionage, targeting national information infrastructure, targeting government, foreign intelligence activities.

T6932MS	Strategic Intelligence
Course Title:	**Strategic Intelligence**
Code:	**T6932MS**
NQF Level:	**9**
Contact hours:	4 lecture hours per day for 3 weeks.
Credits:	**24**
Course Assessment:	**50%** continuous assessment (minimum of two assignments, one test, one seminar presentation and a role play). **50%** written examination (1 x 3 hours examination paper).
Prerequisites:	None
Course description:	**Evolution of intelligence**; **threat perception and analysis; early warning systems; the concept and elements of intelligence**; data collection, analysis and production; covert action; **counter-intelligence and counter espionage –** cyber security; **the management and control of intelligence**; post-cold war intelligence agencies; strategic doctrines of the major powers and regional collective security (case studies).

T6942MA	Applied Research Methodology
Course Title:	**Applied Research Methodology**
Code:	**T6942MA**
NQF Level:	**9**
Contact hours:	2 lecture hours per day for 3 weeks.
Credits:	**12**
Course Assessment:	**50%** continuous assessment (minimum of three assignments, case study review, one seminar presentation). **50%** written examination (1 x 2 hours examination paper).
Prerequisites:	None
Course description:	Research methodology overview; **literature review and theoretical framework**; **qualitative research methods; quantitative research methods; mixed methods;** data collection methods; data analysis and interpretation-descriptive statistics; **research ethics**; learning and teaching methods; referencing styles (APA).

T6973MT	Thesis
Course Title:	**Thesis**
Code:	**T6973MT**
NQF Level:	**9**
Contact hours:	Regular consultations with the supervisor(s).
Credits:	**120**
Course Assessment:	100% the Thesis shall be examined by at least two examiners approved by the Faculty Admission, Assessment and Graduation Board, whereby one of the examiners must be external to UNAM, except where the student is a staff member, in which case all the examiners must be external. To pass the thesis, students must obtain a minimum final mark of 50% from each examiner and the final thesis marks will be the average from the two examiners' marks as per the UNAM's Higher Degrees Policy regulations.
Prerequisites:	A student should have a minimum of **84 credits** including a pass in Applied Researc Methodology (T6942MA).
Course description:	Students are expected to write a thesis in the area of Security and Strategic Studies.

F. DEPARTMENT OF NAUTICAL SCIENCE

F.1. ADMISSION REQUIREMENTS

The minimum entry requirements for admission into first year **Bachelor of Science in Nautical Science** are as follows:

Candidates must be NDF officers at the rank of Leading Seaman to Lt. Cmdr./equivalent as recommended by the Ministry of Defence and Veteran Affairs (MoDVA) or general public students.

In addition to the admission requirement

ADMISSION BASED ON NAMIBIAN SCHOOL LEAVING CERTIFICATES 2021 ONWARDS

EITHER

A pass in five different subjects as follows:

(a) Maths and Physics on NSSCAS level with an average "**d**" or Higher.
(b) 3 Subjects on NSSCO level with a "**C**" or higher (Chemistry or Geography inclusive).
(c) English must be at minimum "**C**" at NSSCO level.

OR

A pass in five different subjects as follows:

(a) 3 Subjects on NSSCAS level with an average "**d**" or Higher (Maths and Physics inclusive).
(b) 2 Subjects on NSSCO level with a **D** or higher (Chemistry or Geography inclusive).
(c) English must be at minimum **C** at NSSCO level.

Complementary subjects: Design and Technology, Mechanics and Technical Drawing

ADMISSION BASED ON NAMIBIAN SCHOOL LEAVING CERTIFICATES PRIOR TO 2021

Candidates in possession of a valid Namibian Senior Secondary Certificate (NSSC) issued **prior to 2021** (only) and has a pass in 5 different subjects, as outlined below, can enroll in the *Extended mode* of this programme:

EITHER

A pass in five (5) different subjects with

(a) Two (2) subjects on NSSCH with **4** or higher,
(b) Three (3) subjects on NSSCO with **C** or higher, and additionally,
(c) English, Mathematics and Physical Science must be at minimum a **C** on NSSCO.

OR

A pass in five (5) different subjects with

(a) Three (3) subjects on NSSCH with **4** or higher,
(b) Two (2) subjects on NSSCO with **C** or higher, and additionally,
(c) English, Mathematics and Physical Science must be at minimum a **C** on NSSCO.

Complementary subjects: Design and Technology, Mechanics and Technical Drawing

Additional Selection Criteria

The selection of candidates will be done based on the highest points on the UNAM evaluation scale guided by matters of equity as outlined by national policies (such as Gender and Regional Representation).

Mature Entry Scheme

Candidates should

1. Be at least 25 years old on the 1st day of the academic year in which admission is sought,
2. Have at least completed senior secondary education, and
3. Have proof of at least 5 years' relevant work experience relevant to the proposed study programme.

Additionally, such candidates will sit for four (4) Mature Age Entry Examination papers, which are covering the topics of

1. **English Proficiency**,
2. **General Knowledge,**
3. **Mathematical Ability,** and
4. **Physical Science**.
5. A **60%** average of all the papers is required, with no paper below **50%.**

Another way of entering the programme is through **Recognition of Prior Learning (RPL)** according to the UNAM RPL policy. Depending on the content of a qualifying candidate's RPL portfolio placement in the programme can be accomplished at the discretion of the Head of Department, into either the Normal mode or the Extended mode of this programme.

F.1.1. RE-ADMISSION REGULATIONS

To be re-admitted into the **Bachelor of Science in Nautical Science** Program for a particular year of registration, a student must have passed the minimum number of credits as indicated below:

Normal enrollment
55 credits (of which 24 must be non-core) by the end of the first year of registration
106 credits (of which 82 must be non-core) by the end of the second year of registration
132 credits by the end of the third year of registration
186 credits by the end of the fourth year of registration

The programme must be completed within a maximum of 5 years of registration.

Extended enrollment
32 number of credits (of which 12 must be non-core) by the end of the first year of registration
92 number of credits (of which 28 must be non-core) by the end of the second year of registration
120 number of credits by the end of the third year of registration
164 number of credits by the end of the fourth year of registration
220 number of credits by the end of the fifth year of registration

The programme must be completed after a maximum of 6 years of registration

F.1.2. ADVANCEMENT AND PROGRESSION RULES

A student advances to the subsequent academic year of study when the following conditions have been met in terms of the Programme year structure. In all cases prerequisites for modules have to be passed before a student can proceed to register for modules that require prerequisites.

Normal enrolment
Year 1 to Year 2: At least 112 credits including the UNAM Core Modules
Year 2 to Year 3: All first-year credits (128 credits) in addition to at least 87 second-year credits

Extended enrolment
Year 1 to Year 2: At least 60 credits
Year 2 to Year 3: All first-year credits in addition to at least 64 second year credits
Year 3 to Year 4: All second-year credits and at least 54 third year credits

A student who **fulfilled the re-admission regulations** but **could not advance** to the **next academic yea**r must first register **for all failed modules**. Subject to **pre-requisites**, such a student may then **add modules of the subsequent academic yea**r, provided that the total number of registered credits **does not exceed the prescribed number of credits of the current academic year** by more than **20%.**

F.1.3. ARTICULATION OPTIONS

Bachelor of Science in Nautical Science, serves as the entry point for the Bachelor of Science in Nautical Science (hons) and postgraduate diplomas

F.1.4. ASSESSMENT CRITERIA

For modules assessed with Continuous Assessment (CA) and Examination
Unless otherwise indicated, the relationship between the **CA** mark and the Examination mark is **50:50**

A minimum CA mark of **40%** is required to gain entrance into the relevant module examination.
The final mark for each module shall be calculated using a ratio of the CA mark: examination mark of 50%:50% and to pass such a module, a minimum final mark **of 50%** shall be required.
Notwithstanding the results of the mark above, a sub-minimum of at least **40%** shall apply to the Exam mark.
To qualify for a supplementary exam, a final mark of **45-49**% is required, subject to a sub-minimum of 40% in the exam.

For **100%** continuous assessment modules, final mark of **50%** shall be required to pass.

F.1.5. REQUIREMENTS FOR QUALIFICATION AWARD

This qualification will be awarded to candidates credited with a minimum of 388 credits and who have met the requiremtns of the prescribed curriculum and have met all other relevant UNAM requirements.

F.1.6. CAREER OPPORTUNITIES

Graduates would have an opportunity to work in areas such as:

1. Maritime Vessel Navigation
2. Naval operations
3. MV Watch Keeping
4. Bridge/Deck personnel
5. Plant and Machinery operations
6. Marine Vehicle maintenance
7. Marine Vehicle surveying

F.1.7. BACHELOR OF SCIENCE IN NAUTICAL SCIENCE TABLE FOR ALL MODULES

Qualification: Bachelor of Science in Nautical Science 34BSNS

Students opting for a **Bachelor of Science in Nautical Science** must take all of the following courses:

YEAR 1

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
Year 1 Core Semester 1					
1	Skills Portfolio	U3403FS	NCB	None	None
1	Academic Literacy 1A	U3583AL	8	None	None
1	Digital Lieracy	U3583DD	8	None	None
1	Basics of Technical Drawing	T3520NS	2	None	None
1	Ethics and Morality	U3420EM	2	None	None
1	National and Global Citizenship	U3420CN	2	None	None
1	Leadership Skills	U3520LP	2	None	None
Year 1 Semester 1					
1	Calculus I	S3511MC	12	None	None
1	General Physics I	S3511PG	14	None	None
1	Introduction to the Maritime Industry	T3511NS	12	None	None
1	Fundamentals of Statistics	S3511SF	12	None	None
Year 1 Semester 2					
2	Calculus II	S3512MC	12	S3511MC	None
2	General Physics II	S3512PG	14	None	S3511PG
2	International Law of the sea	T3522NS	7	None	None
2	Introduction to Digital Electronics	S3532DI	14	None	None
2	Naval Warfare	T3502NS	7	None	None
	Workplace Attachment I: (6 weeks)		NCB	None	None
Total Credits			**128**		

YEAR 2

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
Year 2 Core Semester 2					
1	Academic Literacy IB	U3683AL	8	None	None
1	Military Law	T3620MS	8	None	None
1	Entrepreneurship Skills	U3420RT	2	None	None
1	Sustainability and environmental awareness	U3420SE	2	None	None
1	Project management Skills	U3420PJ	2	None	None
1	Introduction to Critical thinking	U3520TH	2	None	None
Year 2 Semester 1					
1	Electronics	S3611PE	16	S3512PG	None
CHOOSE ANY ONE					
1	Naval Weapon Systems	T3601NS		T3502NS	None
1	Computer Methods	S3601PC	8	None	None
1	Seamanship	T3631NS	16	T3502NS	None
1	Marine Propulsion	T3651NS	14	T3502NS	None
Year 2 Semester 2					
2	Maritime Navigation I	T3612NS	16	T3631NS	None
2	Ship Stability and Control I	T3632NS	14	T3651NS	None
2	Marine Radio Communications	T3652NS	16	T3631NS	None
2	CWIE Preparation	T3602NS	8	None	None
2	Workplace Attachment 2: (6 weeks)		NCB	None	None
Total Credits			**132**		

YEAR 3

SEMESTER	MODULE NAME	MODULE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
Year 3 Core Semester 3					
1	Workplace Attachment (6 weeks)	W3700IC	24	None	None
Year 3 Semester 1					
1	Military Psychology	T3721MG	9	None	None
1	Vessel Auxiliary Machinery	T3711NS	18	T3651NS	None
1	Ship Stability and Control II	T3721NS	9	T3632NS	None
1	Maritime Navigation II	T3731NS	18	T3612NS	None
Year 3 Semester 2					
2	Ship Electrical Power Systems	T3712NS	16	T3711NS	None
2	Material and Process Technology	T3742NS	9	S3512PG	None
2	Ship Design & Performance	T3732NS	16	T3711NS	None
2	Advanced Ship Electronics	T3722NS	9	S3611PE	None
Total Credits			128		
Total Credit BSc Nautical Science			388		

F.1.8. BACHELOR OF SCIENCE IN NAUTICAL SCIENCE COURSE DESCRIPTIONS

YEAR 1

T3520NS BASICS OF TECHINCAL DRAWING

Course title: **BASICS OF TECHNICAL DRAWING**
Code: T3520NS
NQF level: 5
Contact hours: 2 hours per week for one semester
Credits: 2
Course assessment: 100% of the final mark consisting of a combination of three (3) written class tests (Summative assessment) and short online quiz at the discussion of the lecturer. A final mark of 50% is required to pass this course.
Prerequisites: **None**
Course description: This module covers; Introduction to Graphic Communication: Artistic drawings, technical drawings, drawing equipment, Lettering and Lines: Guide Lines, spacing of letters, lettering in maps, Geometric Construction: Geometric Nomenclature, Projection: Orthographic projections, Types and priorities of lines, Auxiliary views, Sectional views, Isometric drawing, Dimensioning drawings: Application of Engineering Drawing in Environmental Health Projects: Materials used in a sketch mapping for Field or Office Use.

T3511NS INTRODUCTION TO THE MARITIME INDUSTRY

Course title: **INTRODUCTION TO THE MARITIME INDUSTRY**
Code: T3511NS
NQF level: 5
Contact hours: 4 hours per week for one semester
Credits: 12
Course assessment: Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites: **None**
Course description: This module covers; Shipping companies: structure and responsibilities, Ships: types of ships (incl. Offshore vessels) , ship dimensions, hull, machinery, safety equipment, load line and tonnage measurement, The crew: qualification and manning of ships (acc. STCW),The cargo: types of cargo, charter parties and cargo documents, Key maritime organisation and regulations: (IMO, flag states, class societies, ISM, ISPS, etc.), Insurance matters: transport, damage and P&I insurance, Nautical Equipment: RADAR, ECDIS, AIS, GPS (Travel Planning, Route Control, Collision Avoidance, etc.), Career prospects: in the maritime industry.

T3522NS **INTERNATIONAL LAW OF THE SEA**

Course title: **INTERNATIONAL LAW OF THE SEA**
Code: T3522NS
NQF level: 5
Contact hours: 2 lecture periods per week for one semester
Credits: 7
Course assessment: Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites: **None**
Course description: This module covers; United Nations Convention on the law of the Sea: Territorial Sea and Contiguous Zone, Straits used for international navigation, Archipelagic States, Exclusive Economic Zone, Continental Shelf, High Seas, Regime of Islands, Enclosed or semi-enclosed seas, Right of access of land-locked states to and from the sea and freedom of transit, the Area, Protection and the Preservation of the Marine Environment, Marine Scientific Research, Development and transfer of Marine Technology, Settlement of disputes, General Provisions, Final Provisions.

T3502NS NAVAL WARFARE

Course title: **NAVAL WARFARE**
Code: T3502NS
NQF level: 5
Contact hours: 2 hours per week for one semester
Credits: 7
Course assessment: Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer
Prerequisites: **None**
Course description: This module covers; Review of military history: age of Galley Warfare, age of sail, war evolution, age of the battleship. Naval Warfare 20th century. Propulsion and technological advances: weapon systems, nuclear power and missiles. Art and science of naval warfare: doctrine and amphibious operations.

YEAR 2

T3631NS SEAMANSHIP

Course title:	**SEAMANSHIP**
Code:	T3631NS
NQF level:	6
Contact hours:	4 hours per week for one semester **and 3 practical hours per week**
Credits:	16
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites:	**T3501NS**

Course description: This module covers; General ship characteristics: ship equipment, ship maneuvering, anchoring, berthing and unberthing, ship to ship interaction, channel effects and tug use and roles and characteristics of warships. Chart-work: the chart, compasses, common markings on a chart, variation and deviation, tides, Rule of the road, sound signals, steering rules, lights on vessels, buoyage, safety and distress. Introduction to electronic navigation: satellite navigation (GPS), radar, compasses, echo sounder.

T3651NS MARINE PROPULSION

Course title:	**MARINE PROPULSION**
Code:	T3651NS
NQF level:	6
Contact hours:	4 hours per week for one semester **and 2 practical hours per week**
Credits:	14
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer
Prerequisites:	**T3501NS**

Course description: This module covers; Ships, Propulsion Machinery: Propulsion Devices. Screw Propellers, Propeller In "Open" Water, Propeller "Behind" The Ship, Propulsion Model Experiments, Basics of Thermodynamics: Steam propulsion, Gas Propulsion and ICE.

T3612NS MARITIME NAVIGATION I

Course title:	**MARITIME NAVIGATION I**
Code:	T3612NS
NQF level:	6
Contact hours:	4 hours per week for one semester **and 3 practical hours per week**
Credits:	16
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer
Prerequisites:	**T3631NS**

Course description: This module covers; Coastal Navigation: charts, projections, distance, direction, speed -, time –, distance calculations, Application of navigation instruments: gyro compass, magnetic compass, sighting devices, GPS, electronic charts, Fixing the ship: plotting of fixes, DRs, EPs, effect of wind, current.

T3632NS SHIP STABILITY & CONTROL I

Course title:	**SHIP STABILITY & CONTROL I**
Code:	T3632NS
NQF level:	6
Contact hours:	4 hours per week for one semester **and 2 practical hours per week**
Credits:	14
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer
Prerequisites:	**T3651NS**

Course description: This module covers; Forces and moments, Centroids and the centre of gravity, Density and specific gravity, Laws of flotation, Group weights, water draft, air draft and density, Transverse statical stability, Effect of free surface of liquids on stability, TPC and displacement curves, Form coefficients, Simpson's Rules for areas and centroids, Calculating KB, BM and metacentric diagrams, Final KG plus twenty reasons for a rise in G, Angle of list, Moments of statical stability, Increase in draft due to list, Effects of side winds on stability, Load lines and freeboard marks.

T3601NS NAVAL WEAPON SYSTEMS

Course title:	**NAVAL WEAPON SYSTEMS**
Code:	T3601NS
NQF level:	6
Contact hours:	2 hours per week for one semester
Credits:	8
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer
Prerequisites:	**T3502NS**

Course description: This module covers; Weapons system overview, energy, radar principles and systems, automatic tracking systems, Track-While-Scan (TWS), electronic scanning and phased array, USS Vincennes, electronic warfare, C4ISR and information warfare. Principles of underwater sound, detection and tracking systems. Military explosives and warheads, fuzing, guidance and control principles. Weapon propulsion and Architecture, launching systems, fire control, mine warfare.

T3652NS MARINE RADIO COMMUNICATIONS

Course title:	**MARINE RADIO COMMUNICATIONS**
Code:	T3652NS
NQF level:	6
Contact hours:	4 hours per week for one semester **and 3 practical hours per week**
Credits:	16
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer
Prerequisites:	**T3631NS**

Course description: This module covers; Radio propagation, Marine Communications, Coast Radio and Limited Coast Stations, Power Supplies, Marine Radio Communications Equipment, Digital Selective Calling, Emergency Position Indicating Radio Beacons, Search and Rescue Transponders, Distress Urgency and Safety Communication using radiotelephony, Operating Procedures for routine communications, Maritime communication satellite systems and equipment, GMDSS.

T3602NS CWIE PREPARATION

Course title:	**CWIE PREPARATION**
Code:	T3602NS
NQF level:	6
Contact hours:	2 lectures per week for one semester
Credits:	8
Course assessment:	Continuous assessment **(100% of the final mark)** consisting of a combination of tests and quizzes, assignments, and a CWIE portfolio. A final mark of **50%** is required to pass this course.
Prerequisites:	**None**

Course description: This module covers; Professional behaviour, work-readiness, diligence & work ethics. Active searching for a CWIE situation with the aid of UNAM and the School.

YEAR 3

T3731NS MARITIME NAVIGATION II

Course title:	**MARITIME NAVIGATION II**
Code:	T3731NS
NQF level:	7
Contact hours:	4 hours per week for one semester **and 3 practical hours per week**
Credits:	16
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites:	**T3612NS**

Course description: This module covers; Fixing papers, electronic navigation aids and compasses, sunrise, sunset, contact tracking on maneuvering boards, Pilotage:, command and control and responsibilities of the Captain, - Navigation Officer, - Officer of the Watch, - Operations Room Officer, and contact tracking on maneuvering boards (Relative Velocity problems), Rule of the Road: Introduction to Astro Navigation, Sextant; principles, errors and correcting.

T3742NS MATERIAL AND PROCESSING TECHNOLOGY

Course title:	**MATERIAL AND PROCESS TECHNOLOGY**
Code:	T3742NS
NQF level:	7
Contact hours:	2 lectures per week for one semester **and 2 practical hours per week**
Credits:	9
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites:	**S3512PG**

Course description: This module covers; introduction to materials science and engineering; classification and functional of materials based on structure; imperfections in the atomic and ionic arrangements; atom and ion movements in materials; mechanical properties: fundamentals and tensile, hardness, and impact testing; fracture mechanics, fatigue, and creep behavior; strain hardening and annealing; principles and applications of solidification; solid solutions and phase equilibrium; dispersion strengthening and eutectic phase diagrams; dispersion strengthening by phase transformations and heat treatment; heat treatment of steels and cast irons; materials resistance and strength of materials; materials design and selection.

T3711NS VESSEL AUXILIARY MACHINERY

Course title:	**AUXILIARY MACHINERY**
Code:	T3711NS
NQF level:	7
Contact hours:	4 hours per week for one semester **and 3 practical hours per week**
Credits:	18
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites:	**T3651NS**

Course description: This module covers; Engine Room Layout: Lay out of main and auxiliary machinery in engine rooms in different ships. Piping arrangement, Pumps, Evaporators, Fresh Water generators, Deck Machinery, Filters, Heat Exchangers

T3721NS MARITIME NAVIGATION II

Course title:	**SHIP STABILITY & CONTROL II**
Code:	T3721NS
NQF level:	7
Contact hours:	4 hours per week for one semester **and 2 practical hours per week**
Credits:	16
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites:	**T3632NS**

Course description: This module covers; Trim or longitudinal stability, Stability and hydrostatic curves Combined list and trim, Calculating the effect of free surface of liquids (FSE), Bilging and permeability, Dynamical stability, Angle of loll, True mean draft The inclining experiment plus fluctuations in a ship's lightweight, The calibration book plus soundings and ullages, Ship squat in open water and in confined channels, Heel due to turning, List due to bilging side compartments, The deadweight scale, The Trim and Stability book, Simplified stability information, The stability Proforma, Bending of ships, Strength curves for ships and Bending and shear stresses.

T3712NS SHIP ELECTRICAL POWER SYSTEMS

Course title:	**SHIP ELECTRICAL POWER SYSTEMS**
Code:	T3712NS
NQF level:	7
Contact hours:	4 lecture periods per week for one semester **and 2 practical hours per week**
Credits:	16
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites:	**T3711NS**

Course description: This module covers; Principles of electric power generation, Transformers, Three-phase induction motor, Alternators.

T3732NS SHIP DESIGN & PERFORMANCE

Course title:	**SHIP DESIGN & PERFORMANCE**
Code:	T3732NS
NQF level:	7
Contact hours:	4 hours per week for one semester **and 2 practical hours per week**
Credits:	16
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites:	**T3711NS**

Course description: This module covers; Ship Design: Preliminary estimates for new ships: Main Dimensions, Preliminary estimates for group weights for a new ship, Preliminary capacities for a new ship, Approximate hydrostatic particulars, Types of ship resistance, Types of ship speed, Types of power in ships, Power coefficients on ships, Preliminary design methods for a ship's propeller and rudder. Ship Performance: Ship Trials: a typical 'Diary of Events', Ship Trials: speed performance on the measured mile, Ship Trials: endurance and fuel consumption, Ship Trials: maneuvering trials and stopping characteristics, Ship Trials: residual trials, Ship squat in open water and in confined channels, Reduced ship speed and decreased propeller revolutions in shallow waters, The phenomena of Interaction of ships in confined waters and Ship vibration.

T3722NS ADVANCED SHIP ELECTRONICS

Course title:	**ADVANCED SHIP ELECTRONICS**
Code:	T3722NS
NQF level:	7
Contact hours:	2 hours per week for one semester **and 3 practical hours per week**
Credits:	9
Course assessment:	Assessment will be based on CA **(50%)** and formula Exam **(50%).** The CA will be compiled from three **(3)** written class tests (Summative assessment) and short online quiz at the discussion of the lecturer.
Prerequisites:	**None**

Course description: This module covers; semiconductor device manufacturing passive electronic components, active discrete components, electromechanical components, basic amplifier and oscillator circuits; fundamental electronic circuits, antennas and feed horns, microwave and UHF technology, analog and linear integrated circuits, digital logic and integrated circuits, batteries and power supplies, optoelectronic components and communication, microprocessors and microcontrollers, electronic sensors and transducers, radio transmitters and receivers, telecommunications technology, consumer electronics products, military and aerospace electronic systems, electronic hardware: wire, cable, and connectors, electronic test instruments.

G. OLD UNDERGRADUATE PROGRAMMES AND POSTGRADUATE PROGRAMMES

UNDERGRADUATE PROGRAMMES

CODE	DEGREE	MINIMUM DURATION
21BMSA	Bachelor of Military Science Army Honours	4 years full-time
21BMSR	Bachelor of Military Science Aeronautical Honours	4 years full-time
21BMSM	Bachelor of Military Science Nautical-Mechanical Honours	4 years full-time
21BMSE	Bachelor of Military Science Nautical-Electronics Honours	4 years full-time
21BMSW	Bachelor of Military Science Nautical-Weapon Systems Honours	4 years full-time

POSTGRADUATE PROGRAMME

CODE	DEGREE	MINIMUM DURATION
21 PDSS	Postgraduate Diploma in Security and Strategic Studies	1 year full-time
21 MASS	Master of Arts in Security and Strategic Studies	2 years full-time

MINIMUM REQUIREMENTS FOR RE-ADMISSION

To be re-admitted into the School of Military Science for a particular year of registration, a student must have passed the minimum number of modules as indicated below:

- At least 64 credits by the end of the first year (at least 40% of total credits in Year 1)
- At least 80% of Year 1 credits plus 40% of Year 2 credits by the end of the second year.
- All (100%) Year 1 credits plus at least 80% of Year 2 credits plus at least 40% of Year 3 credits by the end of the third year.
- All (100%) of Year 1 and Year 2 credits plus 80% of Year 3 credits plus 20% of Year 4 credits by the end of the fourth year.

ADVANCEMENT AND PROGRESSION RULES

A student advances to the following academic level of study when at least two thirds of the modules of the curriculum for a specific year have been passed. If a student passed only one third of the full curriculum of a specific year, he/she may not register for any modules of the following year. In all cases prerequisites for modules have to be passed before a student can proceed to register for modules that require prerequisites.

From Year 1 to Year 2

At least 7and (1/2) courses (equivalent to 112 credits) prescribed for Year 1

From Year 2 to Year 3

All the **first year** modules plus At least 6 courses (equivalent to 96 credits) prescribed for Year 2

From Year 3 to Year 4

All **second year** modules plus at least 5 courses (equivalent to **80** credits) prescribed for Year 3

G.1. BACHELOR OF SCIENCE IN MILITARY SCIENCE (ARMY) HONOURS

Qualification: BSc. Honours Military Science Army 21BMSA

Students opting for a Military Science (Army) must take all of the following courses:

YEAR 1

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	English Communication & Study Skills	LCE 3419	16	None	None
1	Basic Mathematics	MAT3511	16	None	None
1	Computer Literacy	CLC3509	8	None	None
1	Analytic Geometry	MAT3501	8	None	None
1	Matrices and Complex Numbers	MAT3521	8	None	None
1	Physics for Physical Sciences I	PHY3511	16	None	None
1	Fundamentals of Information Technology I	CIT3521	8	None	None
2	English for Academic Purposes	LEA3519	16	None	LCE3419
1&2	Contemporary Social Issues	CSI3580	8	None	None
2	Fundamentals of Information Technology II	CIT3512	16	None	CIT3521
2	Precalculus	MAT3512	16	None	None
2	Introduction to Statistics	STS3522	8	None	None
2	Physics for Physical Sciences II	PHY3512	16	None	None
Total Credits			**160**		

YEAR 2

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Calculus I	MAT3611	16	MAT3512	None
1	Numerical Methods with MATLAB	MAT3641	8	MAT3521	None
1	Mechanics and Waves	PHY3651	16	MAT3512 &PHY3511	None
1	Human Resource Management I	ARM3641	8	None	None
1	Concepts and Techniques in Military Geography	ARM3611	16	None	None
1	Physical Environment I	ARM3601	8	None	None
2	Calculus II	MAT3612	16	MAT3512	None
2	Ordinary Differential Equations	MAT3642	8	MAT3521 and MAT3512	None
2	Electromagnetism	PHY3612	16	PHY3512 and MAT3512	None
2	Human Resource Management II	ARM3642	8	ARM3641	None
2	Physical Environment II	ARM3612	16	ARM3601	None
Total Credits			**136**		

YEAR 3

SEMESTER	MODULE NAME	MODULE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Electrodynamics	PHY3711	16	PHY3612 & MAT3612	None
1	Military Psychology	ARM3721	8	None	None
1	Military Management	ARM3741	8	None	None
1	Military History	ARM3761	8	None	None
1	Military Conduct and Environment	ARM3711	16	ARM3611	None
2	Research Methodology	AER3732	8	STS3522	None
2	Modern Physics	PHY3752	16	MAT3512 and either PHY3651 or PHY3612	None
2	Africa and International Political Economy	ARM3732	16	None	None
2	Geography of Sub-Saharan Africa	ARM3712	16	ARM3611	None
2	Contemporary Political Relations	ARM3772	16	None	None
Total Credits			**128**		

YEAR 4

SEMESTER	MODULE NAME	MODULE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1&2	Research Project	ARM3810	32	AER3732	None
1	Advanced Electrodynamics	PHY3809	8	PHY3711	None
1	Military Leadership	ARM3831	16	ARM3741	None
1	Economics I	ARM3851	16	None	None
1	Geographical Information Systems	ARM3811	16	ARM3712	ARM3852
2	Nuclear Physics	PHY3802	8	PHY3752	None
2	Economics II	ARM3872	16	ARM3851	None
2	Remote Sensing	ARM3852	16	ARM3712 & ARM3811	None
Total Credits			**128**		

G.1.1. BACHELOR OF SCIENCE IN MILITARY SCIENCE (ARMY) HONOURS TABLE OF EQUIVALENCES

For the students of the old programme that need to repeat, the following equivalents are to be used:

Old Module	New Module	Level	Credits
LCE 3419 English Communication & Study Skills			
MAT3511 Basic Mathematics	Old module retained		
CLC3509 Computer Literacy			
MAT350 Analytic Geometry	Old module retained		
MAT3521Matrices and Complex Numbers	Old module retained		
PHY3511 Physics for Physical Sciences I	S3511PG General Physics I	5	14
CIT3521 Fundamentals of Information Technology I	Old module retained		
CSI3580 Contemporary Social Issues	Old module retained		
LEA3519 English for Academic Purposes	Old module retained		
CIT3512 Fundamentals of Information Technology II	Old module retained		
MAT3512 Pre-Calculus	Old module retained		
STS3522 Introduction to Statistics	Old module retained		
PHY3512 Physics for Physical Sciences II	S3512PG General Physics II	5	14
MAT3611 Calculus I	Old module retained		
MAT3641 Numerical Methods with MATLAB	S3631MN Old module retained	6	14
PHY3651 Mechanics and Waves	Old module retained	6	
ARM3611 Concepts & Techniques in Military Geo	Old module retained		
ARM3601 Physical Environment I	Old module retained		
MAT3612 Calculus II	Old module retained		
MAT3642 Ordinary Differential Equations	S3611MC Calculus III	6	14
PHY3612 Electromagnetism	Old module retained		
ARM3641 Human Resource Management I	T3641MG Military Human Resource Management	6	8
ARM3642 Human Resource Management II	T3641MG Military Human Resource Management	6	8
ARM3612 Physical Environment II	Old module retained		
ARM3721 Military Psychology	T3731MG Military Psychology	7	9
ARM3741 Military Management	T3752MG Military Management & Leadership	7	16
AER3721 Research Methodology	T4800AR Research Methodology and Project proposal	8	14
ARM 3761 Military History	Old module retained		
ARM 3711 Military Conduct & Environment	T3772MG Military Conduct & Environment	7	16
ARM 3732 Africa and International Political Economy	T3771MG Africa and International Political Economy	7	16
ARM3772 Contemporary Political Relations	Old module retained		
ARM 3752 Geography of Sub-Saharan Africa	T3732MG Geography of Sub-Saharan Africa	7	16

G.2. BACHELOR OF SCIENCE IN MILITARY SCIENCE (AERONAUTICAL) HONOURS

Qualification: BSc Honours Military Science Aeronautical 21BMSR

Students opting for a Military Science (Aeronautical) must take all of the following courses:

YEAR 1

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	English Communication & Study Skills	LCE 3419	16	None	None
1	Basic Mathematics	MAT3511	16	None	None
1	Computer Literacy	CLC3509	8	None	None
1	Analytic Geometry	MAT3501	8	None	None
1	Matrices and Complex Numbers	MAT3521	8	None	None
1	Physics for Physical Sciences I	PHY3511	16	None	None
1	Fundamentals of Information Technology I	CIT3521	8	None	None
2	English for Academic Purposes	LEA3519	16	None	LCE3419
1&2	Contemporary Social Issues	CSI3580	8	None	None
2	Fundamentals of Information Technology II	CIT3512	16	None	SCIT3521
2	Precalculus	MAT3512	16	None	None
2	Introduction to Statistics	STS3522	8	None	None
2	Physics for Physical Sciences II	PHY3512	16	None	None
Total Credits			**160**		

YEAR 2

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Calculus I	MAT3611	16	MAT3512	None
1	Numerical Methods with MATLAB	MAT3641	8	MAT3521	None
1	Mechanics and Waves	PHY3651	16	MAT3512 & PHY3511	None
1	Fundamentals of Physical Geography	AER3631	16	None	None
1	Theory of Flight I	AER3621	8	None	None
2	Calculus II	MAT3612	16	MAT3512	None
2	Ordinary Differential Equations	MAT3642	8	MAT3521and MAT3512	None
2	Electromagnetism	PHY3612	16	PHY3512 &MAT3512	None
2	Theory of Flight II	AER3612	16	AER3621	None
2	Flight Physiology	AER3642	8	None	AER3621
Total Credits			**128**		

YEAR 3

SEMESTER	MODULE NAME	MODULE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Electrodynamics	PHY3711	16	PHY3612 & MAT3612	None
1	History of Aviation	AER3721	8	None	None
1	Military Management	ARM3741	8	None	None
1	Military Psychology	ARM3721	8	None	None
1	Airport Planning and Management	AER3751	16	None	None
1	Theory of Flight III	AER3711	16	AER3612 & AER3621	None
2	Modern Physics	PHY3752	16	MAT3612 and either PHY3651 or PHY3612	None
2	Research Methodology	AER3732	8	STS3522	None
2	Aviation Management Principles	AER3702	8	None	ARM3741
2	Aviation Ethics	AER3722	8	None	ARM3721
2	Aviation Laws and Regulations	AER3742	8	None	AER3751
2	Aircraft Turbine Engine Operation	AER3762	8	None	AER3711
Total Credits			**128**		

YEAR 4

SEMESTER	MODULE NAME	MODULE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1&2	Research Project	AER3810	32	AER3732	None
1	Advanced Electrodynamics	PHY3809	8	PHY3711	None
1	Aviation Safety	AER3811	16	None	AER3702
1	Advanced Aircraft Performance	AER3831	16	None	AER3762
1	Crew Resource Management in Aviation	AER3821	8	AER3742	None
2	Nuclear Physics	PHY3802	8	PHY3752	None
2	Aviation Navigation GPS	AER3812	16	AER3742	None
2	Aviation Leadership	AER3822	8	AER3722	None
2	Aviation-Aerospace Security Issues	AER3842	8	AER3722	None
2	Aviation Terrorism and Asymmetrical Warfare	AER3862	8	None	AER3811
Total Credits			**128**		

G.2.1. BACHELOR OF SCIENCE IN MILITARY SCIENCE (AERONAUTICAL) HONOURS TABLE OF EQUIVALENCES

For the students of the old programme that need to repeat, the following equivalents are to be used:

	Table of equivalents during the phasing in/out period	
	Old course	**New course**
Year 1		
	LCE 3419: English Communication & Study Skills	No equivalent – old module retained
	CLC3509: Computer Literacy	No equivalent – old module retained
	CIT3521: Fundamentals of Information Technology I	No equivalent – old module retained
	LEA3519: English for Academic Purposes	No equivalent – old module retained
	CSI3580: Contemporary Social Issues	No equivalent – old module retained
	CIT3512: Fundamentals of Information Technology II	No equivalent – old module retained
	STS3522: Introduction to Statistics	No equivalent – old module retained
	PHY3511: Physics for Physical Sciences I	No equivalent – old module retained
	PHY3512: Physics for Physical Sciences II	No equivalent – old module retained
	MAT3511: Basic Mathematics	No equivalent – old module retained
	MAT3512: Pre-calculus	No equivalent – old module retained
	MAT3521: Matrices and Complex Numbers	S3511MS: Mathematics Support I
	MAT3501: Analytic Geometry	No equivalent – old module retained
Year 2		
	MAT3611: Calculus I	No equivalent – old module retained
	MAT3612: Calculus II	No equivalent – old module retained
	PHY3651: Mechanics & Waves	No equivalent – old module retained
	PHY3612: Electromagnetism	No equivalent – old module retained
	MAT3642: Ordinary Differential Equations	S3611MC: Calculus III
	MAT3641: Numerical Methods with MATLAB	No equivalent – old module retained
	AER3621: Theory of Flight I	No equivalent – old module retained
	AER3612: Theory of Flight II	No equivalent – old module retained
	AER3642: Flight Physiology	No equivalent – old module retained
	AER3631: Fundamentals of Physical Geography	No equivalent – old module retained
Year 3		
	PHY3711: Electrodynamics	S3711PE: Electrodynamics
	AER3732: Research Methodology	No equivalent – old module retained
	PHY3752: Modern Physics	S3702PM: Modern Physics
	AER3711: Theory of Flight III	No equivalent – old module retained
	ARM3741: Military Management	Military Management & Leadership
	AER3722: Aviation Ethics	T3722AD: Aviation Ethics
	AER3742: Aviation Laws and Regulations	T3702AE: Aviation Laws and Regulations
	AER3721: History of Aviation	No equivalent – old module retained
	AER3702: Aviation Management Principles	T3751AC: Aviation Management

	ARM3721: Military Psychology	T3731MG: Military Psychology
	AER3751: Airport Planning and Management	T3731: Airport Planning and Management
	AER3762: Aircraft Turbine Engine Operation	T3762AF: Aircraft Turbine Engine Operation
Year 4		
	AER3810: Research Project	T3813AP: Research Project
	AER3811: Aviation Safety	No equivalent – old module retained
	AER3831: Advanced Aircraft Performance	No equivalent – old module retained
	AER3821: Crew Resources Management in Aviation	No equivalent – old module retained
	AER3842: Aviation Aerospace Security Issues	No equivalent – old module retained
	AER3812: Aviation Navigation GPS	No equivalent – old module retained
	AER3822 : Aviation Leadership	No equivalent – old module retained
	AER3862: Aviation Terrorism and Asymmetrical Warfare	No equivalent – old module retained
	PHY3809: Advanced Electrodynamics	No equivalent – old module retained
	PHY3802: Nuclear Physics	No equivalent – old module retained

G.3. BACHELOR OF SCIENCE IN MILITARY SCIENCE (NAUTICAL) HONOURS

Qualification: BSc Honours Military Science Nautical - Mechanics 21BMSM

Students opting for a Military Science (Nautical - Mechanics) must take all of the following courses:

YEAR 1

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	English Communication & Study Skills	LCE 3419	16	None	None
1	Basic Mathematics	MAT3511	16	None	None
1	Computer Literacy	CLC3509	8	None	None
1	Analytic Geometry	MAT3501	8	None	None
1	Matrices and Complex Numbers	MAT3521	8	None	None
1	Physics for Physical Sciences I	PHY3511	16	None	None
1	Fundamentals of Information Technology I	CIT3521	8	None	None
1&2	Contemporary Social Issues	CSI3580	8	None	None
2	English for Academic Purposes	LEA3519	16	None	LCE3419
2	Fundamentals of Information Technology II	CIT3512	16	None	CIT3521
2	Precalculus	MAT3512	16	None	None
2	Introduction to Statistics	STS3522	8	None	None
2	Physics for Physical Sciences II	PHY3512	16	None	None
Total Credits			**160**		

YEAR 2

SEMESTER	MODULE NAME	COURSE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Calculus I	MAT3611	16	MAT3512	None
1	Numerical Methods with MATLAB	MAT3641	8	MAT3521	None
1	Mechanics and Waves	PHY3651	16	MAT3512 & PHY3511	None
1	Propulsion	NAV3661	8	PHY3511	None
1	Seamanship	NAV3601	8	None	None
2	Calculus II	MAT3612	16	MAT3512	None
2	Ordinary Differential Equations	MAT3642	8	MAT3521 and MAT3512	None
2	Electromagnetism	PHY3612	16	PHY3512 &MAT3512	None
2	Ship Stability and Controls	NAV3642	8	None	NAV3601
2	Maritime History	NAV3622	8	None	None
2	Marine Radio Communications	NAV3652	16	CIT3512	None
Total Credits			**128**		

YEAR 3

SEMESTER	MODULE NAME	MODULE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1	Military Psychology	ARM3721	16	None	None
1	Military Management	ARM3741	8	None	None
1	Navigation and Naval Operations	NAV3711	16	NAV3601	None
1	Applied Thermodynamics	NAV3751	16	PHY3512	None
1	Auxiliaries Naval Engines	NAV3731	16	NAV3661	None
2	Research Methodology	AER3732	8	STS3522	None
2	Modern Physics	PHY3752	16	MAT3612 and either PHY3651 or PHY3612	None
2	Advanced Navigation	NAV3742	8	NAV3711	None
2	Vector Analysis	MAT3742	8	MAT3612	None
2	Naval Weapon Systems	NAV3722	8	None	None
2	Ship Design	NAV3762	8	NAV3642	None
Total Credits			**128**		

YEAR 4

SEMESTER	MODULE NAME	MODULE CODE	CREDITS	PRE-REQUISITES	CO-REQUISITES
1&2	Research Project	NAV3810	32	AER3732	None
1	Astro-Navigation	NAV3801	8	NAV3742	None
1	Military Leadership	ARM3831	16	ARM3741	None
1	Material Resistance	NAV3841	8	NAV3751	None
1	Process and Material Technologies	NAV3821	8	PHY3651	None
1	Ship Hydro-Statics and Stability	NAV3871	16	NAV3762	None
2	Nuclear Physics	PHY3802	8	PHY3752	None
2	Naval Warfare	NAV3822	8	None	None
2	Engine Automation and Controls	NAV3862	8	NAV3731	None
2	Applied Electronics	NAV3882	8	PHY3612	None
2	Corrosion and Controls	NAV3802	8	NAV3821	None
Total Credits			**128**		

G.3.1. BACHELOR OF SCIENCE IN MILITARY SCIENCE (NAUTICAL) HONOURS TABLE OF EQUIVALENCES

For the students of the old programme that need to repeat, the following equivalents are to be used:

Semester	Old Module Course	New Module Course
Year 1		
1	LCE 3419 English Communication & Study Skills	Old Module Retained
2	LEA3519 English for Academic Purposes	Old Module Retained
1	CLC3509 Computer Literacy	Old Module Retained
1&2	CSI3580 Contemporary Social Issues	Old Module Retained
1	MAT3511 Basic Mathematics	Old Module Retained
1	MAT3501 Analytic Geometry	Old Module Retained
1	MAT3521 Matrices and Complex Numbers	Old Module Retained
2	MAT3512 Pre-Calculus	Old Module Retained
1	PHY3511 Physics for Physical Sciences I	S3511PG General Physics I
2	PHY3512 Physics for Physical Sciences II	S3512PG General Physics II
1	CIT3521Fundamentals of Information Technology I	Old Module Retained
2	CIT3512 Fundamentals of Information Technology II	Old Module Retained
2	STS3522 Introduction to Statistics	Old Module Retained
Year 2		
1	MAT3611 Calculus I	S3511MC Old Module Retained
1	MAT3641 Numerical Methods with MATLAB	S3631MN Numerical Mathematics
1	PHY3651 Mechanics and Waves	Old Module Retained
2	PHY3612 Electromagnetism	Old Module Retained
1	NAV3661 Propulsion	T3651NS Marine Propulsion
1	NAV3601 Seamanship	T3631NS Seamanship
2	MAT3612 Calculus II	S3512MC Old Module Retained
2	MAT3642 Ordinary Differential Equations	S3611MC Calculus III
2	NAV3642 Ship Stability and Controls	T3632NS Ship Stability and Control I
2	NAV3622 Maritime History	T3502NS Old Module Retained
2	NAV3652 Marine Radio Communications	T3652NS Marine Radio Communications
Year 3		
1	ARM3721 Military Psychology	T3721MS Military Psychology
1	ARM3741 Military Management	T3792MS Military Management & Leadership
1	NAV3711 Navigation and Naval Operations	T3731NS Maritime Navigation II
1	NAV3751 Applied Thermodynamics	Old Module Retained
1	NAV3731 Auxiliaries Naval Engines	T3711NS Vessel Auxiliary Machinery
2	AER3732 Research Methodology	Old Module Retained
2	PHY3752 Modern Physics	S3702PM Modern Physics
2	NAV3742 Advanced Navigation	Old Module Retained
2	MAT3742 Vector Analysis	Old Module Retained
2	NAV3722 Naval Weapon Systems	T3601NS mOld Module Retained
2	NAV3762 Ship Design	T3732NS Ship Design & Performance

G.4. POSTGRADUATE DIPLOMA IN SECURITY AND STRATEGIC STUDIES 21PDSS

Qualification: Postgraduate Diploma in Security and Strategic Studies s 21PDSS

Course code	Course Title	NQF Level	Pre-requisite	NQF Credits
	Semester 1			
UAE 4819	Academic Writing for Postgraduate Students	8	None	NCB
MSS 4811	Research Methodology	8	None	16
MSS 4831	Contemporary World Politics	8	None	16
MSS 4851	National and Human Security	8	None	16
MSS 4871	Democratic Government and the Security Sector	8	None	16
	Total Credits Semester 1			**64**
	Semester 2			
MSS 4812	Research Project	8	MSS 4811	16
MSS 4832	Introduction to Public Policy Process	8	None	16
MSS 4852	Strategic Studies and management	8	None	16
	ELECTIVES: SELECT ONLY ONE			
MSM 4812	Military History of Africa (capita selecta) (compulsory for members of defence)	8	None	16
MSD 4812	Diplomacy Theory and Practice (compulsory for members from Foreign Affairs.)	8	None	16
MSP 4812	Political Economy of Food Security (compulsory for Agric & Forestry)	8	None	16
MSP 4832	Public Safety and Rule of Law (compulsory for members from Safety & Sec.)	8	None	16
MSI 4812	International, Regional and Sub-Regional Organisations	8	None	16
MSR 4812	Conflict Resolutions	8	None	16
	Total Credits Semester 2			**64**
	TOTAL CREDITS			**128**

G.4.1. POSTGRADUATE DIPLOMA IN SECURITY AND STRATEGIC STUDIES TABLE OF EQUIVALENCES

For the students of the old programme that need to repeat, the following equivalents are to be used:

Year	Semester	OLD COURSE		EQUIVALENT NEW COURSE	
1	0	UAE4819	Academic Writing for Postgraduate Students	U3583AL	Academic Writing for Post-Graduate Students
1	0	MSS4811	Research Methodology	AER3800 (HONS)	Research Methodology & Project Proposal
1	0	MSS4832	Introduction to Public Policy Process	T5800MP	Public Policy Analysis
1	1	MSS4851	National and Human Security	T5821MC	The Construct of Security
1	1	MSS4831	Contemporary World Politics	T5811MC	Contemporary World Politics
1	1	MSS4852	Strategic Studies and Management	T5831MS	Strategic Studies and Management
1	1/2	MSS4812	Research Project	T5892MR	Research Project
1	2	MSS4871	Democratic Governance and the Security Sector	T5852MS	Security Sector and Democracy
1	2	MSD4812	Diplomatic Theory and Practice	T5872MD	Diplomatic Studies
1	2	MSP4832	Public safety and Rule of Law	T5842MP	Public Safety and Rule of Law
1	2	MSM4812	Military History of Africa	T5862MM	Military History
1	2	MSP4812	Political Economy of Food Security	T5802MP	Political Economy of Food Security

G.5. MASTER OF ARTS IN SECURITY AND STRATEGIC STUDIES

Qualification: Master of Arts in Security and Strategic Studies 21MASS

YEAR 1

Course Code	Course Title	NQF Level	NQF Credits	(Co-requisite) / Pre-requisite
UAE 5819	Academic Writing for Postgraduate Students	8	NCB	None
MSS 5911	The State & Human Security	9	24	None
MSS 5931	The Study of Contemporary World Politics	9	24	None
MSS 5951	Strategic Management	9	24	None
	Total Credits Semester 1		**72**	
Year 1 Semester 2				
PAR 5962	Research Methodology	9	12	None
MSS 5912	Comparative Foreign Policy	9	24	None
MSS 5932	National Security and Development	9	24	None
	Total credits Semester 2		**60**	
	TOTAL CREDITS YEAR 1		**132**	

YEAR 2

MSS 5971	Intelligence Strategy	9	24	None
MSE 5911	Elements of National Power	9	24	None
MSS 5981	Research Paper	9	18	
	Total credits Semester 1		66	
MSS 5992	Thesis	9	60	PAR 5962
	Total credits semester 2		**60**	
	Total credits Year 2		**126**	
	TOTAL CREDITS FOR THE PROGRAMME		**258**	

G.5.1. MASTER OF ARTS IN SECURITY AND STRATEGIC STUDIES TABLE OF EQUIVALENCES

Year	Semester	Old Course		Equivalent New Course	
1	0	UAE5819	Academic writing for Postgraduate Students	U3583AL	Academic Writing for Post-Students
1	0	MSS5911	The State and Human Security	T6910MT	The Construct of Security
1	0	MSS5931	The Study of Contemporary World Politics	T6930MC	Contemporary World Politics
1	1	MSS5951	Strategic Management	T6901MS	Strategic Management
1	1			T6951MA	African International Relations
1	1	PAR5962	Research Methodology	T6971MR	Research Methodology
1	2	MSS5932	National Security and Development	T6912MN	National Security and Development
1	2	MSS5871	Intelligence Strategy	T6932MI	Intelligence Culture
1	2	MSS5912	Comparative Foreign Policy	T6902MC	Comparative Foreign Policy
2	1	MSE5911	Elements of National Power	T6911MS	Strategic Geopolitics
2	2	MSS5992	Thesis	T6972MT	Thesis

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