



**education**

Department of Education  
REPUBLIC OF SOUTH AFRICA

# **NATIONAL CURRICULUM STATEMENT GRADES 10-12**

**SUBJECT:  
INFORMATION TECHNOLOGY**

**TEACHER TRAINING MANUAL  
2006**

<b>PROGRAMME</b>	<b>3</b>
<b>SESSION 1 – Introducing the National Curriculum Statement (NCS) and the National Senior Certificate (NSC)</b>	<b>4</b>
<b>SESSION 2 – Introducing the Subject Statement</b>	<b>6</b>
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# PROGRAMME

PERIOD: Monday to Friday

DURATION: 36-37 hours

## 5-DAY PROGRAMME FOR TEACHERS-

SESSION	ACTIVITY	TOTAL TIME	TIME ALLOCATION	DAY
1. Introducing the National Curriculum Statement (NCS) and the National Senior Certificate (NSC)	<b>Activity 1</b> Introduction of training participants	3-4 hours		Mon AM
	<b>Activity 2</b> Overview of the week of training / documents provided			
	<b>Activity 3</b> Introduction to the NCS and NSC			
2. Introducing the Subject Statement	<b>Activity 1</b> Introduction to IT	20 hours	1 hour	Mon PM – Wed PM
	<b>Activity 2</b> Subject Content and Approach		<b>18 hours</b>	
	<ul style="list-style-type: none"> <li>• Part 1:</li> <li>• Part 2</li> <li>• Part 3</li> <li>• Part 4</li> <li>• Part 5</li> <li>• Part 6</li> </ul>		2 hours 1 ½ hours 1 ½ hours 4 hours 3 hours 6 hours	
	Conclusion / Wrap-up		1 hour	
3. Planning for teaching subjects in the NCS	<b>Activity 1</b> The Planning Cycle	8 hours	½ hour	Thu
	<b>Activity 2</b> Introduction to the Grade 11 Work Schedule		1 hour	
	<b>Activity 3</b> Critique of the Grade 11 Work Schedule		2 ½ hours	
	<b>Activity 4</b> Report back		1 hour	
	<b>Activity 5</b> Development of the first Lesson Plan for Grade 11		3 hours	
4. Annual assessment plan	<b>Activity 1</b> Introduction to Assessment	5 hours	½ hour	Fri AM
	<b>Activity 2</b> Annual assessment plan		1 ½ hour	
	<b>Activity 3</b> Development of grade 11 annual assessment plan		2 ½ hours	
	Conclusion / Wrap-up			

## SESSION 1 –

### Introducing the National Curriculum Statement (NCS) and the National Senior Certificate (NSC) (3-4 hours)

#### **ACTIVITY 1: Introduction of training participants**

FORM OF ACTIVITY: [Introductions](#)

#### **ACTIVITY 2: Overview of the week of training / documents provided**

FORM OF ACTIVITY: Presentation

RESOURCES: The 5-day training programme (PowerPoint)  
A hard copy of each document referred to-

- National Senior Certificate Policy
- Subject Statement
- Subject Assessment Guidelines
- Learning Programme Guidelines
- National Protocol on Assessment
- Higher Education admission requirements

CONTENT:

- Training programme for the week and house rules.
- Documents making up the National Curriculum Statement policy and documents supporting the National Curriculum Statement policy – purpose and status of each.

#### **ACTIVITY 3: Introduction to the NCS and NSC**

##### **Part 1: 20 Questions**

FORM OF ACTIVITY: Test and discussion

RESOURCES: [PowerPoint Presentation](#), Laptop, Data Projector, [Appendix 1](#)

CONTENT:

- 20 questions focusing on the NCS and NSC

INSTRUCTIONS:

- Allow the participants to record their responses to each question as individuals.
- Discuss the answers with the group as a whole, inviting participants to offer answers before discussing them.

## **Part 2: NCS and NSC**

FORM OF ACTIVITY: Presentation and discussion

RESOURCES: [PowerPoint Presentation](#), Laptop, Data Projector, a hard copy of each document referred to in the presentation-

- National Senior Certificate Policy
- Subject Statement
- Subject Assessment Guidelines
- Learning Programme Guidelines
- National Protocol on Assessment

CONTENT:

- Overview of the NCS, including principles and Critical and Developmental Outcomes.
- National Senior Certificate: Requirements, structure and details.

## **Part 3: Requirements for Higher Education study**

FORM OF ACTIVITY: Open-book and presentation

RESOURCES: [PowerPoint Presentation](#), Laptop, Data Projector, HE admission requirements, ***Flip Chart and Koki***

CONTENT:

- Requirements for certificate, diploma and degree programmes.

INSTRUCTIONS:

### **Introduction**

- While the Higher Education document is not part of NCS policy, it provides teachers with indicators on required learner performance in NCS subjects for entry into Higher Education.
- The 3-year NSC programme is the key to Higher Education study and teachers need to be aware of the admission requirements for different programmes offered at Higher Education Institutions.

### **Open-book activity**

- Ask participants to study the HE document and identify the requirements for Higher certificate, diploma and degree programmes.
- Complete the table in **Appendix 1**

### **Report back and discussion**

- Allow one report back.
- Present the requirements (see PowerPoint Presentation).
- Discuss the designated list of subjects, noting that learners already have 3 of the designated subjects in their NSC package – two languages and Mathematics or Mathematical Literacy.

## SESSION 2 –

### Introducing the Subject Statement (20 hours)

#### **ACTIVITY 1: Introduction to INFORMATION TECHNOLOGY (1 hour)**

FORM OF ACTIVITY: Presentation and discussion

RESOURCES: [PowerPoint Presentation](#), Laptop, Data Projector, Subject Statement, a hard copy of each supporting policy relevant to the subject.

#### CONTENT:

- Overview of the subject: Definition, purpose and scope of the subject – its origin.
- Learning Outcomes for the subject – briefly refer to relationship with the Critical and Developmental Outcomes and the NCS principles.
- Brief overview of subject developments, i.e. new content (Report 550 to National Curriculum Statement).
- Incremental implementation of the INFORMATION TECHNOLOGY curriculum for Grades 10-12.
- Point out how the Assessment Standards for INFORMATION TECHNOLOGY give an indication of the teaching, learning and assessment approach to be used in the classroom – for example the verbs and the nouns contained in each Assessment Standard give a general indication of the skills and knowledge to be displayed by learners when engaging in an activity related to that Assessment Standard.
- Mention of supporting policies relevant to the subject and how they support the implementation of the subject INFORMATION TECHNOLOGY (do not engage in them).
- Time allocation and placement of INFORMATION TECHNOLOGY in the school timetable.

#### **ACTIVITY 2: INFORMATION TECHNOLOGY Subject Content, Approach and Progression (18 hours)**

NOTE: Each Learning Outcome for INFORMATION TECHNOLOGY will be dealt with individually, addressing the subject content, the subject approach and the progression (Parts 1 – 4). A separate activity that includes looking at integration within and across the Learning Outcomes will be done at a later stage. This principle will then be cemented in through an in depth look at Scenarios (Part 5).

#### **Part 1: LO1 (2 hours)**

FORM OF ACTIVITY: Presentation, interactive, report back and discussion

RESOURCES: [PowerPoint Presentation](#), Laptop, Data Projector, Subject Statement, Learning Programme Guidelines, [APPENDIX 2](#), [APPENDIX 11](#)

## CONTENT:

- Content, progression, integration and approach to teaching, learning and assessment

## INSTRUCTIONS:

- Complete **Appendix 11**

### **Subject Content**

- Do a critical study of the Grade 10-12 subject content for INFORMATION TECHNOLOGY as provided for the Learning Outcome in the Subject Statement (Chapter 3).
- What content is to be taught per grade for the Learning Outcome?
- What content is new – i.e. it is unknown to you? – **APPENDIX 3**
- Is progression evident within the Learning Outcome across the three grades? Provide examples of such progression.
- Should any of the content be re-organised to display progression across the grades? Identify this content.
- Is there a link between the content indicated for each Assessment Standard? (I.e. What integration is possible within the Learning Outcome?)
- What must a learner be able to know, do and value after exposure to the content in this Learning Outcome? (i.e. skills, knowledge)
- Complete **APPENDIX 2**

### **Report Back**

One group reports back and others make additions to avoid long, extended reporting so that any remaining time can be used to engage in a constructive discussion.

## **Part 2:      LO2 (1 ½ hours)**

### Instructions:

- Jig Saw method-
  - Group participants into the home group.
  - Give each member of the group a number from 1 – 6
  - Form expert groups according to numbers
    - Group 1: AS 1 & 7 – (Grades 10 to 12)
    - Group 2: AS 2 – (Grades 10 to 12)
    - Group 1: AS 3 & 8 – (Grades 10 to 12)
    - Group 1: AS 4 & 9 – (Grades 10 to 12)
    - Group 1: AS 5 – (Grades 10 to 12)
    - Group 1: AS 6 – (Grades 10 to 12)
  - Each group will discuss the following questions: (30 minutes)
    - Link the content to the ASs
    - Set questions to determine knowledge of subject content
    - Set activities / teaching methods
  - Members return to their home group.(45 minutes)
    - Each member reports back on the assessment standard.
    - Every member of the group has knowledge of all the ASs
  - Select any member of any group to account for any AS. (15 minutes)

**Part 3: LO3 (1 ½ hours)**

Instructions:

- Round Robin (Each participant must have a sheet of paper)
- Give participants 10 minutes to study the AS in this LO
- Each participant needs to record their response on the sheet of paper until the timekeeper gives the signal. On the signal, participants rotate the sheet to the left and only add ASs that are not on the sheet. Continue this process until the sheet reaches the owner.
- Each participant should count the number of ASs on the sheet and verify with the NCS and Subject Framework in the LPG.
- Discussion of the subject content to be taught for the LO

**Part 4: LO4 (4 hours)**

Repeat the same format as used for Part 1: LO1.

**Part 5: Subject Approach and Integration (3 hours)**

FORM OF ACTIVITY: Presentation, interactive, report back and discussion

RESOURCES: PowerPoint Presentation, Laptop, Data Projector, Subject Statement, Learning Programme Guidelines, [APPENDIX 4](#)

CONTENT:

- Content, integration and approach to teaching, learning and assessment

INSTRUCTIONS:

- Study the content for all four Learning Outcomes as addressed in Parts 1-4 and look for authentic links between the content in each – i.e. which of the Assessment Standards from the different Learning Outcomes can be grouped together for teaching, learning and assessment purposes?
- Use the given scenario for a grade 11 class, taking all aspects into consideration for the development of a teaching experience and complete [APPENDIX 4](#)
  - Indicate integration of content from different Learning Outcomes on the grid.
  - What kind of teaching, learning and assessment approach is required to teach, learn and assess the content (i.e. skills & knowledge) indicated in the Assessment Standards of the selected Learning Outcome?
  - What LTSM is required to teach the content of this Learning Outcome to achieve the skills and knowledge indicated in the Assessment Standards?

**Part 6: Practical Assessment Task (6 hours)**

FORM OF ACTIVITY: Presentation, interactive, report back and discussion

RESOURCES: [PowerPoint Presentation](#), Laptop, Data Projector, Subject Assessment Guideline IT, [APPENDIX 5, 6 and 7](#)

CONTENT: Practical Assessment Task

## INSTRUCTIONS:

- In groups
  - Develop criteria for the research project:
    - Introduction
    - Content
    - Conclusion
    - Bibliography
    - Certificate of authenticity
  - Allocate an internal weighting for each of the above where relevant.
  - Total marks to be reworked to a total of 20 – complete **APPENDIX 5**.
  - Report Back
    - Develop a PAT for Programming & Software Development in Grade 12 and set criteria keeping in mind the following areas:
      - Planning
      - Documentation / Algorithms
      - Programming Style
      - Design & Use of Data Structures
      - HCI Principles
      - Expertise required & functionality of the programme
      - Effort
      - Robustness of programming
      - Data validation / Error handling
      - Compliance with task definition
      - Certificate of authenticity
    - Using **APPENDIX 6** complete **APPENDIX 7**.
  - Report Back

### **ACTIVITY 3: Conclusion / Wrap-up (1 hour)**

FORM OF ACTIVITY: Presentation and discussion

RESOURCES: PowerPoint Presentation, Laptop, Data Projector, Subject Statement, Learning Programme Guideline

#### CONTENT:

- Pull all the issues together as discussed in various Learning Outcome discussions.
- Questions & Answers.

## SESSION 3 –

### Planning for teaching subjects in the NCS (8 hours)

#### **ACTIVITY 1: Introduction to the planning cycle (½ hour)**

FORM OF ACTIVITY: Presentation and discussion

RESOURCES: [PowerPoint Presentation](#), Laptop, Data Projector

CONTENT:

- Three stages of planning
- Purpose, role-players and duration per stage
- Issues to consider when developing a Learning Programme
- Brief overview of the key activities and development process per stage

#### **ACTIVITY 2: Introduction to the Grade 11 Work Schedule (1 hour)**

FORM OF ACTIVITY: Presentation and discussion

RESOURCES: Data Projector; Grade 11 Work Schedule, Subject Assessment Guidelines, Learning Programme Guidelines, Subject Statement

CONTENT:

- Elements of design
- Process of design
  - Integration: What, how and why?
  - Sequencing: What, how and why?
  - Pacing: What, how and why?
  - Suggested assessment tasks: What and why? – will return to this in Session 4
  - LTSM: What and why?

#### **ACTIVITY 3: Critique the Grade 11 Work Schedule (2½ hours)**

FORM OF ACTIVITY: Interactive, report back and discussion

RESOURCES: Grade 11 Work Schedule, Subject Statement, Learning Programme Guidelines, Subject Assessment Guidelines, [APPENDIX 8](#)

CONTENT:

- Grade 11 Work Schedule

#### INSTRUCTIONS:

- Participants study the example of the Grade 11 Work Schedule provided and critique it:
  - Does the Work Schedule cover all the Assessment Standards (i.e. content)?
  - Integration: Are the Assessment Standards appropriately linked?
  - Are the Assessment Standards covered in sufficient detail and depth?
  - Pacing: Is the time allocation across the 40 weeks appropriate?
  - Sequencing: Is the content presented in the correct order?
  - Are relevant LTSM listed? If not, list the LTSM required.
  - How can the Work Schedule be improved?
- Complete **APPENDIX 8** for the above questions.
- Complete **APPENDIX 8A** for grade 10. and **APPENDIX 8B** for grade 12.

#### **ACTIVITY 4: Report back (1 hour)**

FORM OF ACTIVITY: Report back and discussion

RESOURCES: Subject Statement, Learning Programme Guidelines

#### CONTENT:

- Improved Grade 11 Work Schedule

#### INSTRUCTIONS:

- Allow different groups to present their improved version of the exemplar Work Schedule for Grade 11.
- Engage participants in a discussion after each presentation.

#### **ACTIVITY 5: Development of the first Lesson Plan for Grade 11 (3 hours)**

FORM OF ACTIVITY: Presentation, interactive, report back and discussion

RESOURCES: PowerPoint Presentation, Laptop, Data Projector, Subject Statement, Learning Programme Guidelines, [APPENDIX 9](#).

#### CONTENT:

- Grade 11 Lesson Plan
  - Elements of design
  - Process of design

#### INTRODUCTION:

- Lesson Plan: What it is and its duration.
- Pointers on deciding on the number of Lesson Plans to be written.
- Elements and design of a Lesson Plan.
- Teaching method: What and why.
- Assessment strategy: Who, when, how and form of assessment.
- Expanded opportunities: Inclusive approach to accommodate all learners.

#### INSTRUCTIONS:

- Provide an overview of the elements and the design process of a Lesson Plan.
- Engage participants in the development of the first Lesson Plan that will be presented for the first 2-5 weeks of the school year according to the Grade 11 Work Schedule critiqued in Activity 3.
- Allow one group to present and then discuss their presentation.

## SESSION 4 – Annual assessment plan (5 hours)

### **ACTIVITY 1: Introduction to assessment in the NCS (½ hour)**

FORM OF ACTIVITY: Presentation and discussion

RESOURCES: [PowerPoint Presentation](#), Laptop, Data Projector, National Protocol on Assessment

CONTENT:

- Approach to assessment: Criteria-driven
- Recording process: Record one global mark / code per task and refer to the Subject Assessment Guidelines for guidance on how to arrive at the final mark for the subject
- Reporting process: 7 codes and percentages
- Portfolios: Teacher and learner

### **ACTIVITY 2: Annual Assessment Plan for Grades 10 and 11(1 ½ hours)**

FORM OF ACTIVITY: Presentation and discussion

RESOURCES: PowerPoint Presentation, Laptop, Data Projector, Subject Assessment Guidelines

CONTENT:

- Programme of Assessment for Grades 10 and 11 (Section 2 of the Subject Assessment Guidelines): Number of tasks
- Nature of tasks: Forms of assessment suitable to the subject (Section 3 of the Subject Assessment Guidelines) and suitable tools
- Practical Assessment Task (PAT) – if applicable to the subject
- Weighting of tasks for the formal Programme of Assessment and mark allocation

### **ACTIVITY 3: Development of a Grade 11 annual assessment plan (2 ½ hours)**

FORM OF ACTIVITY: Presentation, interactive and discussion

RESOURCES: PowerPoint Presentation, Laptop, Data Projector, Subject Assessment Guidelines, [APPENDIX 10](#)

CONTENT:

- Programme of Assessment for Grade 11: Tasks, topics & tools

INSTRUCTIONS:

- Participants critique the Annual Programme of Assessment for grade 11 in the SAG including: Seven tasks: 2 Tests, 2 Examinations, 3 other tasks and PAT – complete **APPENDIX 10**.
- Ask participants to improve on the APOA-participants offer suggestions

- Select one task from the grade 11 POA example in the SAG IT (page 10) and the SAG CAT (page 11)
  - Set the task (problem definition & instructions to learners)
  - Draw up criteria for the marking of the task- N. B. Criteria must be specific
  - Draw up an assessment tool.
- Report Back

**APPENDIX 1 – SESSION 1 – ACTIVITY 3 – PART 1**

Make use of your knowledge of the NCS and related document to answer the following questions.

- Fill in the answers as quick as possible
- Keep answers short and to the point.

No	Answer
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

**SESSION 1 – ACTIVITY 3 – PART 3**

Study the HE document and identify the requirements for certificate, diploma and degree programmes

HIGHER CERTIFICATE	DIPLOMA	BACHELOR'S DEGREE

**APPENDIX 2: SESSION 2: ACTIVITY 2: PART 1-4**

**Subject Content and Approach:**

*Do a critical study of the Grade 10-12 subject content for INFORMATION TECHNOLOGY as provided for the Learning Outcome in the Subject Statement (Chapter 3) and complete the tables below for each LO.*

**LO 1**

Grades	10	11	12
Content to be taught?			
What content is new to the group?			
Is progression evident in the AS's for the LO?			
List the Knowledge and Skills that the learner would acquire from this LO.	K	K	K
	S	S	S

Grades	10	11	12
Link content to Assessment Standards			
Set questions to determine knowledge of subject content.			
Set activities/teaching methods for the content.			

**LO 2**

Grades	10	11	12
Content to be taught?			
What content is new to the group?			
Is progression evident in the AS's for the LO?			
List the Knowledge and Skills that the learner would acquire from this LO.	K	K	K
	S	S	S

Grades	10	11	12
Content to be taught?			
What content is new to the group?			
Is progression evident in the AS's for the LO?			
List the Knowledge and Skills that the learner would acquire from this LO.	K	K	K
	S	S	S



## APPENDIX 4: ACTIVITY 2: PART 5

**Topic / Scenario:** The company, **SA CHARTERS** offers tours to South African places of interests. They have branches in four major cities. Bookings can be done electronically. They have a website where all the relevant information can be accessed. From time to time the company embarks on an advertising campaign. In addition to other information, they also keep information on the following:

- Tours offered
- Tour guides
- Tourist details
- Payment details

*Complete the following sections taking into account the above scenario.*

**Possible LTSM:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

### IT Teaching Approach

Case Study	Demonstration	Individual	Group work
Assignment	Monitoring	Problem Solving	Questioning
Review	Observation	Lecturing	Research
Brainstorming	Role Play	Discussion	Investigation / Explore

### Assessment Forms

Case Study	Demonstration	Individual	Group work
Assignment	Research	Problem Solving	Questioning
Review	Observation	Brainstorming	Critical Thinking
Role Play	Discussion	Investigation / Explore	Study Criteria
Q & A	Alternative Solutions		

### Assessment Tool

Memorandum	Criterion based checklist	Rubric
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## Possible Content

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**Tick the Assessment Standards that are applicable to the scenario and content**

LO1	√	LO2	√	LO3	√	LO4	√
11.1		11.2.1		11.3.1		11.4.1	
11.1.2		11.2.2		11.3.2		11.4.2	
11.1.3		11.2.3		11.3.3		11.4.3	
11.1.4		11.2.4		11.3.4		11.4.4	
11.1.5		11.2.5		11.3.5		11.4.5	
11.1.6		11.2.6		11.3.6		11.4.6	
11.1.7		11.2.7		11.3.7		11.4.7	
11.1.8		11.2.8		11.3.8		11.4.8	
11.1.9		11.2.9		11.3.9		11.4.9	
11.1.10		11.2.10		11.3.10		11.4.10	
11.1.11		11.2.11		11.3.11		11.4.11	
11.1.12		11.2.12		11.3.12		11.4.12	
11.1.13		11.2.13		11.3.13		11.4.13	
11.1.14		11.2.14		11.3.14		11.4.14	
11.1.15		11.2.15		11.3.15		11.4.15	
11.1.16		11.2.16		11.3.16		11.4.16	
11.1.17		11.2.17		11.3.17		11.4.17	
11.1.18		11.2.18		11.3.18		11.4.18	
11.1.19		11.2.19		11.3.19		11.4.19	
11.1.20		11.2.20		11.3.20		11.4.20	
11.1.21		11.2.21		11.3.21		11.4.21	
11.1.22		11.2.22		11.3.22		11.4.22	
11.1.23		11.2.23		11.3.23		11.4.23	

**APPENDIX 5: SESSION 2: ACTIVITY 2: PART 6**

- *In groups develop criteria for the research project according to the given descriptions of the components in the table below.*
- *Allocate an internal weighting for each of the above where relevant.*
- *Total marks to be reworked to a total of 20*

<b>Description of Component</b>	<b>Criteria for component</b>	<b>Mark Allocation/ Weighting</b>
Introduction		
Content		
Conclusion		
Bibliography		
Certificate of authenticity		Total

## **APPENDIX 6: SESSION 2: ACTIVITY 2: PART 6 PROGRAMMING 1**

### **Programming & Software Development Process**

#### **Phase 1: Planning the project**

- **Topic**
- **Flow Diagram**
- **Input / Processing / Output**
- **Application area**
- **Plan modules/units and instruction manuals & interface**

#### **Phase 2: Finding appropriate information**

- **Research information**
- **Determine data fields**

#### **Phase 3: Data collection**

- **Start Coding**
- **Determine Test Data**

#### **Phase 4: Synthesis**

- **Final structure**
- **Assembling parts**
- **Test Runs**
- **Synthesis**

#### **Phase 5: Evaluation**

- **Data evaluation & Analysis**
- **Test interface**
- **Run & Debug**
- **HCI considerations**
- **Interactive interfaces**

#### **Phase 6: Presentation**

- **Presenting of programme & manuals**
- **Debriefing**
- **Programme listings**
- **Data Structures**

**APPENDIX 7: SESSION 2: ACTIVITY 2: PART 6 PROGRAMMING 2**

*Develop a PAT for programming and software development in grade 12 and set criteria for each the components in the table below:*

**Page 1 of 2**

<b>Description of Component</b>	<b>Criteria for component</b>	<b>Mark Allocation/ Weighting</b>
Planning		
Documentation / Algorithms		
Programming Style		
Design & Use of Data Structures		
HCI Principles		Sub Total

Description of Component	Criteria for component	Mark Allocation/ Weighting
Expertise required & functionality of the programme		
Effort		
Robustness of programming		
Data validation / Error handling		
Compliance with task definition		<div style="text-align: right;">Total 80</div>

**APPENDIX 8: SESSION 3: ACTIVITY 3: CRITIQUE OF WORK SCHEDULE**

<p><i>Critique the grade</i>  <i>11 work schedule in the LPG.</i></p> <p><b>Does the Work Schedule cover all the Assessment Standards (i.e. content) for the grade?</b></p>	<b>LO1</b>	√	<b>LO2</b>	√	<b>LO3</b>	√	<b>LO4</b>	√
	11.1		11.2.1		11.3.1		11.4.1	
	11.1.2		11.2.2		11.3.2		11.4.2	
	11.1.3		11.2.3		11.3.3		11.4.3	
	11.1.4		11.2.4		11.3.4		11.4.4	
	11.1.5		11.2.5		11.3.5		11.4.5	
	11.1.6		11.2.6		11.3.6		11.4.6	
	11.1.7		11.2.7		11.3.7		11.4.7	
	11.1.8		11.2.8		11.3.8		11.4.8	
	11.1.9		11.2.9		11.3.9		11.4.9	
	11.1.10		11.2.10		11.3.10		11.4.10	
	11.1.11		11.2.11		11.3.11		11.4.11	
	11.1.12		11.2.12		11.3.12		11.4.12	
	11.1.13		11.2.13		11.3.13		11.4.13	
	11.1.14		11.2.14		11.3.14		11.4.14	
	11.1.15		11.2.15		11.3.15		11.4.15	
	11.1.16		11.2.16		11.3.16		11.4.16	
	11.1.17		11.2.17		11.3.17		11.4.17	
	11.1.18		11.2.18		11.3.18		11.4.18	
	11.1.19		11.2.19		11.3.19		11.4.19	
	11.1.20		11.2.20		11.3.20		11.4.20	
	11.1.21		11.2.21		11.3.21		11.4.21	
	11.1.22		11.2.22		11.3.22		11.4.22	
	11.1.23		11.2.23		11.3.23		11.4.23	
<p><b>Integration: Are the Assessment Standards appropriately linked? Comment.</b></p>								
<p><b>Are the Assessment Standards covered in sufficient detail and depth?</b></p>								
<p><b>Pacing: Is the time allocation across the 40 weeks appropriate?</b></p>								
<p><b>Sequencing: Is the content presented in the correct order?</b></p>								
<p><b>Are relevant LTSM listed? If not, list the LTSM required.</b></p>								
<p><b>How can the Work Schedule be improved?</b></p>								

**APPENDIX 8 A: SESSION 3: ACTIVITY 3: CRITIQUE OF WORK SCHEDULE**

<p><i>Critique the grade 10 work schedule in the LPG.</i></p> <p><b>Does the Work Schedule cover all the Assessment Standards (i.e. content) for the grade?</b></p>	<b>LO1</b>	√	<b>LO2</b>	√	<b>LO3</b>	√	<b>LO4</b>	√
	10.1.1		10.2.1		10.3.1		10.4.1	
	10.1.2		10.2.2		10.3.2		10.4.2	
	10.1.3		10.2.3		10.3.3		10.4.3	
	10.1.4		10.2.4		10.3.4		10.4.4	
	10.1.5		10.2.5		10.3.5		10.4.5	
	10.1.6		10.2.6		10.3.6		10.4.6	
	10.1.7		10.2.7		10.3.7		10.4.7	
	10.1.8		10.2.8		10.3.8		10.4.8	
	10.1.9		10.2.9		10.3.9		10.4.9	
	10.1.10		10.2.10		10.3.10		10.4.10	
	10.1.11		10.2.11		10.3.11		10.4.11	
	10.1.12		10.2.12		10.3.12		10.4.12	
	10.1.13		10.2.13		10.3.13		10.4.13	
	10.1.14		10.2.14		10.3.14		10.4.14	
	10.1.15		10.2.15		10.3.15		10.4.15	
	10.1.16		10.2.16		10.3.16		10.4.16	
	10.1.17		10.2.17		10.3.17		10.4.17	
	10.1.18		10.2.18		10.3.18		10.4.18	
	10.1.19		10.2.19		10.3.19		10.4.19	
	10.1.20		10.2.20		10.3.20		10.4.20	
	10.1.21		10.2.21		10.3.21		10.4.21	
	10.1.22		10.2.22		10.3.22		10.4.22	
	10.1.23		10.2.23		10.3.23		10.4.23	
<b>Integration: Are the Assessment Standards appropriately linked? Comment.</b>								
<b>Are the Assessment Standards covered in sufficient detail and depth?</b>								
<b>Pacing: Is the time allocation across the 40 weeks appropriate?</b>								
<b>Sequencing: Is the content presented in the correct order?</b>								
<b>Are relevant LTSM listed? If not, list the LTSM required.</b>								
<b>How can the Work Schedule be improved?</b>								

**APPENDIX 8B: SESSION 3: ACTIVITY 3: CRITIQUE OF WORK SCHEDULE**

<p><i>Critique the grade 12 work schedule in the LPG.</i></p> <p><b>Does the Work Schedule cover all the Assessment Standards (i.e. content) for the grade?</b></p>	<b>LO1</b>	√	<b>LO2</b>	√	<b>LO3</b>	√	<b>LO4</b>	√
	12.1.1		12.2.1		12.3.1		12.4.1	
	12.1.2		12.2.2		12.3.2		12.4.2	
	12.1.3		12.2.3		12.3.3		12.4.3	
	12.1.4		12.2.4		12.3.4		12.4.4	
	12.1.5		12.2.5		12.3.5		12.4.5	
	12.1.6		12.2.6		12.3.6		12.4.6	
	12.1.7		12.2.7		12.3.7		12.4.7	
	12.1.8		12.2.8		12.3.8		12.4.8	
	12.1.9		12.2.9		12.3.9		12.4.9	
	12.1.10		12.2.10		12.3.10		12.4.10	
	12.1.11		12.2.11		12.3.11		12.4.11	
	12.1.12		12.2.12		12.3.12		12.4.12	
	12.1.13		12.2.13		12.3.13		12.4.13	
	12.1.14		12.2.14		12.3.14		12.4.14	
	12.1.15		12.2.15		12.3.15		12.4.15	
	12.1.16		12.2.16		12.3.16		12.4.16	
	12.1.17		12.2.17		12.3.17		12.4.17	
	12.1.18		12.2.18		12.3.18		12.4.18	
	12.1.19		12.2.19		12.3.19		12.4.19	
	12.1.20		12.2.20		12.3.20		12.4.20	
	12.1.21		12.2.21		12.3.21		12.4.21	
	12.1.22		12.2.22		12.3.22		12.4.22	
	12.1.23		12.2.23		12.3.23		12.4.23	
<b>Integration: Are the Assessment Standards appropriately linked? Comment.</b>								
<b>Are the Assessment Standards covered in sufficient detail and depth?</b>								
<b>Pacing: Is the time allocation across the 40 weeks appropriate?</b>								
<b>Sequencing: Is the content presented in the correct order?</b>								
<b>Are relevant LTSM listed? If not, list the LTSM required.</b>								
<b>How can the Work Schedule be improved?</b>								

## APPENDIX 9: SESSION 3: ACTIVITY 5: LESSON PLAN

*Develop a lesson plan that will be presented in the first 2 to 5 weeks of the school year according to the grade 11 work schedule*

### EXAMPLE OF LESSON PLAN FOR INFORMATION TECHNOLOGY

LESSON DETAILS		
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**Grade:** \_\_\_\_\_ **Date(s):** \_\_\_\_\_ **Time Allocation:** \_\_\_\_\_

**Scenario: (Lesson context)** \_\_\_\_\_

LEARNING OUTCOMES AND ASSESSMENT STANDARDS	
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<b>Learning Outcomes:</b>	
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<b>Assessment Standards:</b>	
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**Topic:** \_\_\_\_\_

CONTENT ANALYSIS	
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<b>Content analysis:</b>	
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<b>Lesson Outcome(s):</b>	
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<b>Time planned:</b>	A	Class time		hours
	B	Organised activities outside the class		hours
	C	Learners busy with individual or group activities outside organised activities (e.g. homework and reflection)		hours

<b>LTSM: (Resources)</b>		
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<b>LESSON PHASES</b>				
<b>Teaching, Learning and Assessment Strategies</b>				
<i>PHASE</i>	<i>TEACHING STRATEGY</i>	<i>TEACHING METHOD</i>	<i>TEACHING ACTIVITES</i>	<i>LEARNER ACTIVITES</i>

**EVIDENCE OF ACHIEVEMENT / ASSESSMENT STRATEGIES**

<b>TASK #:</b>	<b>Learning Outcomes and Assessment Standards</b> (Identify the noun in the AS(s) and LO(s) – content for lesson)	<b>Nature of Task</b> (Identify the verb in the AS(s) which will generate the evidence)	<b>Method of Assessment</b> • (Who carries out the assessment?)	<b>Evidence expected</b> (Criteria)	<b>Form of Assessment</b> (What activity will I give the learner to produce the evidence i.e. learning activity)	<b>Instrument / Tool</b> for assessing learner performance (e.g. rubric, checklist, memo)

**REFLECTION**

**Reflection and notes (e.g. what worked, what did not work):**

.....

.....

.....

.....

## DESIGNING A LESSON PLAN

Element	Description					
<b>Lesson details</b>	Grade Dates Time allocation					
<b>Learning Outcome(s)</b>	State subject LO(s) for lesson - As specified in NCS					
<b>Assessment Standard(s)</b>	State AS(s) for lesson - Selected from LO(s) in NCS					
<b>Lesson topic</b>	As determined by LO(s) and AS(s) above					
<b>Content analysis</b>	Developed from AS(s) and content analysis Refer to learning content which is determined by lesson topic Identify, differentiate and highlight the essential facts / elements / components of the lesson topic These facts / elements / components assist in formulating learning outcomes for the lesson					
<b>Lesson Learning Outcome(s)</b>	<p>Use content analysis and Bloom's taxonomy to formulate learning outcomes for the lesson The idea is to formulate a Lesson Outcome for every essential fact or component of the lesson topic and for every level of the taxonomy that is used. On average five Learning Outcomes per lesson e.g.</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%; vertical-align: top;"> <p><i>The learner is able to:</i> List ... Describe and explain... Investigate and identify... Plan... Identify and prove... Propose ways of improving...</p> </td> <td style="width: 5%; text-align: center; vertical-align: middle;">}</td> <td style="width: 35%; vertical-align: middle; border: 1px solid black; padding: 5px;">                     Informs the assessment criteria                 </td> </tr> </table>			<p><i>The learner is able to:</i> List ... Describe and explain... Investigate and identify... Plan... Identify and prove... Propose ways of improving...</p>	}	Informs the assessment criteria
<p><i>The learner is able to:</i> List ... Describe and explain... Investigate and identify... Plan... Identify and prove... Propose ways of improving...</p>	}	Informs the assessment criteria				
<b>Lesson context</b>	Recreating the context and culture in which the lesson topic is embedded Principle of situated learning – social and physical context from which the content originated Scenarios / themes, site visits, etc. Must be relevant, interesting and meaningful to learners and motivate them to become involved in problem-solving activities					
<b>Expanded opportunities</b>	Extra / challenging activities for high flyers Remedial activities for learners who experience barriers to learning					
<b>LTSM (Resources)</b>	List the resources and tools that will be used in the lesson					
<b>Lesson phases:</b>  For each phase specify: Teaching strategy Teaching method Teaching activities Learning activities	<b>Introduction</b>	<b>Development</b>	<b>Culmination</b>			
	Set stage for activities to follow  Where are we? Where do we want to go? How will we get there?	Introduce new content  To guide learners to experience, research and discover it for themselves  <b>OR</b> To provide opportunities for presenting, explaining and exposing the essential elements of the new content by the teacher	Summarise, apply and transfer SKVs; Assess achievement of AS(s) and LO(s) Assessment <b>for</b> learning Daily Assessment			

	<b>Introduction</b>	<b>Development</b>	<b>Culmination</b>
<b>Teaching strategy:</b> (Single or combination; usually the same for all phases)	Deductive	Proceeds from general law to particular case, from the principle to the application, from rule to example	
	Inductive	Proceeds from particular set of cases to general law, from applications to principle, from example to rule	
	Co-operative	Learners working together in a group small enough that everyone can participate on a clearly defined collective task; social system of small problem-solving groups of learners searching for their own answers.	
	Problem Solving	A situation in which some information is known and other information is needed; the process of applying existing knowledge and skills to known information in a new or unfamiliar situations in order to obtain new needed information	
<b>Teaching method</b> (Usually different for all phases; should always match teaching strategy and phase objectives)	Review Questioning (Baseline / Diagnostic assessment)	Discussion Demonstration Guidance Monitor Questioning Lecturing (Diagnostic assessment)	Review  Self assessment Peer assessment Teacher assessment
<b>Teaching activities</b> (Actual teaching activities the teacher plans to perform)	Ask relevant review questions to: refresh pre-knowledge; rouse and enhance learner interest and motivation by challenging them with relevant and authentic real-life problems to which they can relate; etc.	Discuss key elements of new content Monitor group activities Demonstrate practical aspects of lesson Instruct and guide learners to apply problem-solving skills Include questions learners need to answer; etc.	Review key elements; Summarise; Show successful solutions; Ask learners to compare; Compile assessment activities; Assess and score results; etc.
<b>Learning activities</b> (Activities that teacher expects from learners; these usually mirror the teaching activities)	Recall facts; Critical thinking; Role-play group interactions; Study case study; Investigate problem statement; Study criteria for assessment; etc.	Participate in discussion and ask questions to enhance understanding; Physically explore, investigate; Answer and explain questions asked; Work as group on a task; Apply problem-solving methodology; Formulate problems experienced in the process and ask for guidance; etc.	Critical thinking re integrating new knowledge into existing knowledge structures; Complete assessment activities; etc.
<b>Evidence of achievement (product) – Daily Assessment</b>	<b>Method of assessment</b>	Who carries out the assessment?	Self assessment Peer assessment Group assessment Teacher assessment
	<b>Evidence expected (criteria)</b>	How will I know learner has achieved? What proof must learner provide?	
	<b>Form of assessment</b>	What activity will I give the learner to produce the evidence: i.e. learning activity?  Link with learner activities	Practical; Assignment; Debate; Role-play; Survey; Presentation; Demonstration; Discussion; Worksheet / Task; etc.
	<b>Assessment Instrument / Tool</b>	Link with teacher and learner activities	Checklist with criteria Rubric Marking memorandum
<b>Reflection</b>	What worked, what did not work?		

**APPENDIX 10: SESSION 4: ACTIVITY 3: CRITIQUE OF ANNUAL POA**

*Critique the Annual Programme of Assessment for grade 11 in the SAG IT.*

<b>Aspect of POA</b>	<b>Opinion</b>
Is the number of Assessment tasks in line with the requirements as set by the SAG in Section 2?	
Are the forms of assessment adequately diverse and in line with the requirements as set by the SAG in Section 2?	
Are weightings in the Annual POA in accordance with the requirements set by the Assessment Programme in the SAG – Section 3?	
Are the descriptions of the tasks clear and unambiguous?	
Are the tasks in the POA achievable for the grade level?	
Have all LOs been addressed?	
Is the mark allocation in line with weighting of the LOs as set out in table 3.1 of section 3 of the IT SAG? (CAT SAG refer to 3.1.3)	
Do mark allocations tally in the POA?	
What alternate information would you add to the POA example in the SAG to enhance further understanding?	

## Appendix 11: INFORMATION TECHNOLOGY – 20 QUESTIONS

*Answer the following questions*

<b>Question</b>	<b>Answer</b>
1. How many LOs in IT?	
2. What is the focus of each LO?	
3. How many assessment standards in grade 10?	
4. How many assessment standards in grade 11?	
5. How many assessment standards in grade 12?	
6. For each LO, list the focus content area.	
7. What are the weightings of the LOs?	
8. Explain the term ergonomics.	
9. State 2 latest computer developments and discuss the implications thereof.	
10. List the aspects that you would discuss when dealing with ethical issues relating to the use of computers.	

11. What is GUI and how could it be used to support the programming environment?	
12. How will you test for robustness of application software?	
13. Navigate the Internet in order to retrieve information. What would you discuss here?	
14. How many assessments tasks are required for School Based Assessment (SBA) in grade 10 and 11?	
15. Which SBA tasks are common to grade 10 and 11?	
16. How many assessment tasks are required for School Based Assessment (SBA) in grade 12?	
17. What percentage does the Practical Assessment Task (PAT) constitute in grade 10, 11 and 12?	
18. List any 5 teaching approaches.	
19. List any 5 assessment forms.	
20. List the assessment tools that you could use.	