

## COOL: Gen Exam specifications 2.0

### Target group

This module is intended for beginning COOL: Gen users.

### Exam requirements

1. In a given situation the candidate is able to read an analysis created using Cool Gen.  
The candidate is able to analyze a simple business structure using Cool Gen.
2. For a given situation the candidate is able to create and read an application design using Cool Gen.
3. The candidate has knowledge of and insight into Windows design.
4. The candidate has knowledge of and insight into Action Diagramming.
5. The candidate has knowledge of and insight into Construction.
6. The candidate has knowledge of and insight into Component Based Development (CBD).
7. The candidate has knowledge of and insight into Models and Encyclopedias.
8. The candidate has knowledge of Cool Gen facilities and is able to apply them in a given situation.
9. In a given situation the candidate is able to evaluate the specifications of a COOL:Gen model for quality and make improvements

Average study load	in %
1. Analysis	5
2. Application Design	15
3. Window design	20
4. Action Diagramming	20
5. Construction	10
6. Component Based Development	5
7. Models and Encyclopedias	10
8. Facilities in COOL:Gen	10
9. Quality	<u>5</u> +

Total: 100 %

**1 In a given situation the candidate is able to read an analysis created using Cool Gen.**

**The candidate is able to analyze a simple situation using Cool Gen.**

**1.1** The candidate is able to read a given data model.

**1.2** The candidate is able to create a data model of a given situation using Cool Gen.

Specification types

Sub-type

**1.2.1** The candidate is familiar with the different entity types and is able to apply them in a given situation.

**1.2.2** The candidate is familiar with the following concepts

- Volumetrics
- Identifier

**1.2.3** The candidate is familiar with different relations and is able to apply them in a given situation

- 1:1
- 1:N,
- N:M

**1.2.4** The candidate is familiar with the following aspects regarding relations and is able to apply them in a given situation

- Cardinality
- Optionality
- Deletion rules

**1.2.5** The candidate is familiar with different domains and Categories of Attributes and is able to apply them in a given situation.

- Basic
- Designed
- Derived

**1.2.6** The candidate is familiar with the concept of Subject areas and is able to apply this in an analysis.

**1.3** The candidate has insight into and knowledge of Process modeling using Cool Gen.

**1.3.1** The candidate is able to create an Activity hierarchy diagram using Cool Gen.

**1.3.2** The candidate is familiar with the concept of Functions and is able to use this concept in a given situation.

**1.3.3** The candidate is familiar with the concept of Processes.

**1.3.4** The candidate is familiar with elementary processes in Cool Gen.

**1.3.5** The candidate is familiar with the concept of Dependency diagramming and is able to use this in a simple analysis.

**1.4** The candidate is familiar with and is able to apply the following:

- Anticipated effects
- Crud matrix
- Entity life cycle

**2 The candidate is able to create and read an application design for a given situation using Cool Gen.**

**2.1** The candidate is able to use the business system

- Defaults
- Commands
- Exit State
- Edit Patterns
- Video Properties

**2.2** The candidate is able to work with the navigation diagram.

**2.2.1** The candidate is familiar with the concepts procedures and procedure steps and is able to apply these concepts.

- Commit Units
- Step Properties

**2.2.2** The candidate is familiar with the concept of flow and is able to apply this concept.

- Matching
- Exit State

- Commands
- Link/Transfer
- Display/Execute first

2.2.3 Copy with substitution

### 3 The candidate has knowledge of and insight into Window design

3.1 The candidate is able to work with Windows and dialog boxes

- Properties

3.2 The candidate is familiar with the functions and features of the following Views and is able to apply this in a given situation.

- Import View
- Export View
- Mapping
- Repeating Group Views
- Work View
- Entity View
- Attribute View

3.3 The candidate is familiar with the following Window controls and is able to apply them in a given situation:

- Tool bar
- Status bar
- Entry Field
  - Edit Patterns, Prompts
- Multi-Line Entry
- Check box
  - On / Off values
- Radio button
  - Values
- Drop down list
- List box
  - Selection indicator
- Push button
  - Commands
- System Attributes
- Accessing controls
  - Mnemonic keys
  - Accelerator keys
  - Disabled by
  - Sequencing

3.4 The candidate is able to use event handling in a given situation.

- Event types
  - Standard event types per control
  - User Defined Events
  - TIREVENT
  - Special Actions
- Commands
- Parameters

3.5 The candidate is familiar with Bitmaps.

**4 The candidate has knowledge of and insight into Action Diagramming.**

**4.1** In a given situation the candidate is able to apply views.

**4.2** The candidate is familiar with the following view concepts and is able to apply them:

- Local view  
Initialize on every entry
- Entity action view

**4.3** The candidate is familiar with the event handling function and is able to apply this in a given situation.

**4.4** The candidate is familiar with the following concept and its effects:

- Move import to export

**4.5** The candidate is familiar with GUI statements and is able to apply them in a given situation.

**4.6** The candidate is familiar with the action blocks concept and is able to apply it in a given situation, including;

- Use
- Matching
- High performance view passing
- External action block

**4.7** The candidate is able to use Pstep.

- Use
- Matching

**4.8** In a given situation, the candidate is able to use the following flow control statements:

- IF
- CASE
- WHILE
- REPEAT
- FOR
- FOR EACH
- Targeting
- ESCAPE
- NEXT

**4.9** The candidate is able to apply persistent data logic statements in a given situation with statements such as:

- CREATE
- READ
- Desired / Current / Some / That
- UPDATE
- DELETE
- READ EACH
- (DIS)ASSOCIATION
- TRANSFER
- SUMMARIZE (EACH)
- IS POPULATED
- LIKE
- Database Exception logic
- Abort / Retry Transaction
- Transaction retry limit

**4.9.1** The candidate is able to analyze and improve the performance of an application in which the following statements are used:

ANDs / ORs, Parentheses, NOT EQUAL TO, LIKE, Separate views for separate actions, Locks  
READ / READ EACH properties

**4.10** The candidate is familiar with the following assignment statements and is able to apply them in a given situation:

- EXIT STATE IS
- COMMAND IS
- SET
- MOVE
- USING
- Make

**4.11** The candidate is familiar with following statements and is able to apply them in a simple situation:

Functions

Invoke

**5 The candidate has knowledge of and insight into Construction.**

**5.1** The candidate is able to create a simple database design.

**5.2** The candidate is familiar with the following concepts and is able to use them when developing a database design or when reading a database design:

- (Re)Transformation
- TD design properties
- Tables
- Columns
- Foreign keys
- Indices
- RI Process
- RI Constraints
- Denormalization

**5.3** The candidate is familiar with the Packaging concept and is able to apply this in a given situation where the following concepts are important;

- Types
- Load modules
- Trancodes
- Source names (member)

**5.4** The candidate is familiar with the Generation function and is able to apply this in a given situation.

- Environment Parameters
- Code generation
- DDL
- Cascade Library

**5.5** The candidate is able to "build" an application using the build tool, employing the following concepts:

- Settings
- External Libraries

**6 The candidate has knowledge of and insight into Component Based Development (CBD).**

**6.1** The candidate is familiar with the following concepts and is able to use them when developing and/or using a component using CBD principles.

- Specification
  - Component specification type
- Interface specification type
- Specification type
- Operation
  - Pre, post-conditions
  - Return, reason codes

**6.2** The candidate is familiar with the concept of Implementation and is able to implement components in a given CBD situation.

Mappers

**6.3** The candidate is familiar with the concepts Component packaging and generation and is able to generate and package an application using CBD.

- Action blocks
  - Source names
  - Library
- PSTEPs
  - Trancodes
  - Executables

**6.4** The candidate is familiar with the technical features of calling component operations and knows how these are made available (Consumption).

- Stubs
- CBDLIST
- Run time dependencies

**7 The candidate has knowledge of and insight into Models and Encyclopedias.**

**7.1** The candidate is able to use local models.

- Dat files
  - Directory structure
- 7.2** The candidate is able to use the Encyclopedia function in COOL:Gen:
- With check-in
  - Without check-in
  - Verify
  - Resent last update
  - Generate new model
- 7.3** The candidate is able to apply the concept Download/Checkout and is familiar with the underlying mechanism for this concept.
- 7.4** The candidate is able to apply sub-setting in a simple situation and is able to use the Encyclopedia Client required for this.
- Definition
  - Expansion
  - Downgrading
  - Reports
  - Incremental
  - Protection
  - Subset Type
  - Scoping Object
  - Completeness
- 8** **The candidate is familiar with the following Cool Gen facilities and is able to apply these in a given situation.**
- 8.1** The candidate is able to use tracing
- Examining and setting view values
- 8.2** The candidate is familiar with the features of the client manager.
- 8.3** The candidate is familiar with the features and the function of the transaction enabler.
- 9** **In a given situation the candidate is able to evaluate the specifications in a COOL:Gen model for quality and make improvements in the following aspects of the design:**
- Client/Server
  - Entity Action Statements
  - View definition
  - Application structure
  - Consistency in the nomenclature
  - Naming consistency

### Skill requirement specification 1.0

The skills test consists of the following items. A test will be developed for each element. Skill Specification 1 is a totally integrated element that includes all aspects of Cool:Gen (from the specifications). Skill Specification 2 will test specific parts of COOL:Gen. Each element has a weight of 10%; thus the test never includes more than 5 parts of Spec 2.

<b>1</b>	<b>Given a (simple) data model and process model, the candidate is able to create a working GUI-Client-server system, using the associated statements.</b>	<b>50%</b>	
<b>2</b>	<b>The candidate is able to use the following Cool:Gen applications.</b>	<b>50%</b>	
<b>2.1</b>	The candidate is able to create a database for a given situation.		10%
<b>2.2</b>	The candidate is able to create a simple data model with the related process analysis and interaction.		10%
<b>2.3</b>	The candidate is able to define and use a subset in a simple situation.		10%
<b>2.4</b>	Using the specifications for a component in a simple CBD situation, the candidate is able to implement a component and develop a CBD application.		10%
<b>2.5</b>	In a given situation the candidate is able to work with tracing and use tracing to trace and resolve problems.		10%
<b>2.6</b>	In a given situation the candidate is able to develop (create) a client/server application.		10%
<b>2.7</b>	In a given situation the candidate is able to generate an application that results in an operational system.		10%

## Li terature

### General l i terature

#### Exams

##### **Theory**

Multiple choice exams, consisting of 60 questions.

The use of books and notes is not permitted during the exams.

##### **Practice**

The practice exams consist of a number of tasks.

If the student passes the practical exam, he may take the theory exams.