NICET Fire Alarm Systems Level III exam study checklist

Built from the NICET Fire Alarm Systems Level III content outline (dated 18 Dec 2023), exams released from 25 Mar 2024 (read 23 Oct 2026 on NICET's site).
Level III exam: 115 questions in 170 minutes at a Pearson VUE test center, with a basic and scientific calculator built in. Open book: NFPA 72 (2022), NFPA 70 (2020) and NFPA 101 (2021) are on screen; the IBC (2021) is allowed in print only, bound or in a three-ring binder.

One line per thing to be able to do, grouped under the four areas NICET lists for Level III. Installation and maintenance carry 25-35% each, layout 20-30% and management 10-20%. Level III is about running the work: supervising, checking and signing off, not only doing it. Tick a line when you can do it without notes.

Installation

- ☐ Read the contract documents against the codes that apply, and say which one governs when they disagree.
- ☐ Coordinate permits, the other trades and the authority having jurisdiction before and during the job.
- ☐ Walk installed work against the accepted drawings, and record what does not match.
- ☐ Handle a substitution: what to check before you accept it, and who has to agree.
- ☐ Compile record drawings from several crews so device counts and circuits match the field.
- ☐ Put together the close-out package and the record of completion, and say where each is kept.
- ☐ Plan acceptance testing with the authority and the other trades, then witness it and prove each interface end to end.
- ☐ Say when a change after acceptance needs retesting, and how much.

Maintenance

- ☐ Build a periodic test program from a device inventory, and turn the required frequencies into a calendar.
- ☐ Send qualified people, and check each device is tested by the right method.
- ☐ Notify the owner, the monitoring company and the authority before testing, and restore everything after.
- ☐ Run a planned or an emergency impairment: who to tell and what the owner must arrange meanwhile.
- ☐ Trace recurring trouble signals and false alarms to a cause, not a reset.
- ☐ Classify a deficiency and write a correction the owner can act on.
- ☐ Review inspection and test reports before they go out, and say who owns the records and how long they are kept.

Submittal Preparation and System Layout

- ☐ Review a shop drawing set: what to check first, before the details.
- ☐ Check device coverage and spacing for a room from the stated design inputs.
- ☐ Say where the building and life safety codes decide what is required, and where the fire alarm code decides how.
- ☐ Check someone else's battery and end-of-circuit voltage calculations.
- ☐ Check notification load against a power supply's rating.
- ☐ Accept, comment on or return a submittal, with comments the designer can fix.

Management and Supervision

- ☐ Schedule and sequence crews to protect the critical path, and control every change.
- ☐ Set quality hold points, run a safe site and know what to do after an incident.
- ☐ Assign work by competence and certification level, using a simple skills matrix.
- ☐ Train with a plan, check work without redoing it, and manage performance fairly.

Formulas to work by hand

L is one-way length in feet and r is one conductor's resistance in ohms per 1,000 ft. Currents are in amps, time in hours.

Notification circuit voltage drop

Rloop = 2 x L x r / 1,000

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drop = I x Rloop; voltage at the last appliance = supply voltage - drop

Battery amp-hours

base Ah = standby current x standby hours + alarm current x (alarm minutes / 60)

with a margin of m percent: Ah x (1 + m / 100); then pick the next battery size up that the panel allows

Formulas as worked in our fire alarm voltage drop and battery guides, which cite System Sensor's installation instructions, NBS Handbook 100 and a Fire-Lite panel manual. The duty periods and any required factors come from the code edition you are tested on: look them up there.

Check your numbers

Battery calculator: alarmladder.com/tools/fire-alarm-battery-calculator
Voltage drop calculator: alarmladder.com/tools/fire-alarm-voltage-drop-calculator
Wire size calculator: alarmladder.com/tools/fire-alarm-wire-size-calculator
Study plan by exam date: alarmladder.com/tools/nicet-study-plan

Read next

NICET Fire Alarm Level III exam guide: alarmladder.com/guides/nicet-fire-alarm-level-3-exam
Level III study guide: alarmladder.com/guides/nicet-fire-alarm-level-3-study-guide
Moving from Level II to Level III: alarmladder.com/guides/nicet-fire-alarm-level-2-to-level-3
Submittals and layout guide: alarmladder.com/guides/submittals-and-layout

How to use this checklist

- Take the free 10-question check first and start with the area it shows as weakest.
- Check each formula on a worked example someone else wrote, then confirm it with the matching calculator.
- The exam is open book: for each line, practice finding the answer in the code books you will have.
- NICET exam eligibility lasts 6 months from the day you buy the exam, so buy it when you can sit within that window.
- NICET plans updated exams on the 2025 fire alarm code around mid-2027: check which edition applies on your exam date.

Ready to test yourself? 10 free NICET Fire Alarm Level III questions

Find your weakest topic in minutes. Every answer is explained as you go, and there is no signup.

Take the free check: alarmladder.com/nicet-fa-3

Level III course: $149. Lessons, practice exams and a study plan.

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