



# Electrocardiography (ECG) Course Syllabus

## **Institution:**

Nurse Mom and Family, 1010 Huntcliff NE, Suite #1240, Atlanta, GA 30350,

Phone: 470-269-6008

Email: [Info@nursemomandfamily.com](mailto:Info@nursemomandfamily.com)

Website: <https://nursemomandfamily.com/>

## **Course: Fundamentals of Electrocardiography (EKG)**

**Term** (Spring 2025)

**Cumulative Course Hours:** 72

**Lab Hours:** 32

**Externship:** N/A

**Duration:** 7 weeks.

- 2 sessions per week (4.5-5 hours each)
- 40 lecture hours
- 32 clinical hours
- **72 Training Hours Total**

**Instructor** – Daphne Adams, RN

**Office hours** – By appointment.

Please email the instructor at [Ceo@nursemomandfamily.com](mailto:Ceo@nursemomandfamily.com)

## **Course Required Texts –**

Required Text(s)\*: ECG Student Manual

Recommended Optional Readings

- **ECG & Pharmacology Student Workbook, Paperback** By the AHA
  - <https://a.co/d/4o1x2X8> - amazon list - \$7.11
  - ISBN-10- 1616692502
- **NHA Certified EKG Technician (CET) Practice Exam 150 Questions & Answers**  
**Explanation: EKG Technician Prep Test 150 Multiple Choice Questions and Detailed Answers Explanation** by [Sai Parvathi](#) (Author)
  - <https://a.co/d/9ILJPd9> - Amazon link - \$16.99
  - ISBN-13- 979-8333415301

## **Licensure and/or Certification**

- GA LLC Registered
- Sandy Springs Business License and Certificate of Occupancy.



- As it stands, the State of Georgia does not require that electrocardiography technicians have licensure or certification to work in the state.
- National Certification: This course will serve as a prerequisite for the national exam for EKG certification. Once completed, students will be eligible to sit for the Certified Electrocardiography Technician (CET) exam.
- Students who successfully obtain the phlebotomy and/or EKG certification can apply for work in clinical laboratories, hospitals, MD offices, home care, or other healthcare facilities. Although hourly wages are not a guarantee, entry-level pay for these technicians in the Metro Atlanta area is between \$14- \$21 per hour.

## Course Requirements

### Materials Provided:

- Student handbook and EKG Study Guide
- Access to EKG equipment for hands-on practice, software, and mannequins.

### Grades will be assessed based on these components:

This grading system plan aims to provide a comprehensive evaluation of students' knowledge and skills in the EKG class, incorporating both theoretical understanding and practical proficiency.

1. **Clinical Assessment (50%)**
  - Patient Preparation & Setup: 20%.
  - Rhythm Interpretation: 20%
  - Professionalism & Communication: 10%.
2. **Quizzes & Assessments (50%)**
  - Quizzes: 5 %
  - Midterm: 5%
  - Final Written Exam: 20%
  - Final Practical Exam: 20%

**Students must display a Satisfactory understanding of all the topics and obtain an overall grade of 80% or higher on the final to pass this course.**

## Grading and Evaluation Policy:

The course will be taught through classroom instruction and hands-on clinical sessions. Students will attend these courses in person and receive feedback for competency through written and practical quizzes and exams, as well as evaluations.



### Rubric for Written Quizzes and Exams

Grade Range	Performance Level	Description of Achievement	Evaluation Criteria (Written Assessments)
A (90–100%)	Outstanding	Demonstrates <i>exceptional mastery</i> of EKG concepts, theories, and interpretation skills. Shows deep comprehension, accurate reasoning, and critical thinking throughout all written quizzes and exams.	<ul style="list-style-type: none"><li>• Accurately interprets all EKG rhythms and cardiac structures.</li><li>• Demonstrates a clear understanding of conduction pathways and lead placements.</li><li>• Uses precise medical terminology and correct spelling/grammar.</li><li>• Written responses are organized, detailed, and demonstrate superior analytical skill.</li></ul>
B (80–89%)	Above Average	Shows <i>strong understanding</i> of course material with minor errors or gaps. Demonstrates solid comprehension and application of EKG principles.	<ul style="list-style-type: none"><li>• Correctly identifies most EKG rhythms and waveform components.</li><li>• Demonstrates understanding of heart function and physiology.</li><li>• Provides complete and coherent answers with minor inaccuracies.</li><li>• Demonstrates strong written communication skills.</li></ul>



<b>C (70–79%)</b>	<b>Satisfactory</b>	Meets <i>minimum competency standards</i> and demonstrates adequate understanding of fundamental EKG concepts. Performance shows effort but lacks consistency or depth.	<ul style="list-style-type: none"><li>• Identifies basic rhythms and cardiac waveforms correctly most of the time.</li><li>• Understands essential terminology and functions but may have conceptual gaps.</li><li>• Written answers are generally clear but lack detail or explanation.</li><li>• Frequent minor errors, but overall understanding is adequate.</li></ul>
<b>D (60–69%)</b>	<b>Below Average</b>	Demonstrates <i>limited comprehension</i> of EKG theory and written concepts. Performance shows need for additional study and clarification.	<ul style="list-style-type: none"><li>• Struggles to correctly identify rhythms and waveform components.</li><li>• Lacks depth in explaining physiological processes.</li><li>• Written responses may be incomplete, unclear, or disorganized.</li><li>• Frequent factual or interpretive errors.</li></ul>
<b>Below 60%</b>	<b>Unsatisfactory</b>	Fails to meet <i>minimum academic standards</i> . Demonstrates <i>insufficient understanding</i> of core concepts and requires remediation before progressing.	<ul style="list-style-type: none"><li>• Inaccurate or missing responses on majority of questions.</li><li>• Little to no understanding of cardiac physiology or EKG interpretation.</li><li>• Written work shows confusion or lack of effort</li></ul>



			<ul style="list-style-type: none"><li>• Must repeat content area or receive individualized review.</li></ul>
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#### For Practical Quizzes and Exams

Rating	Performance Level	Description of Achievement	Evaluation Criteria (Practical Competencies)
<b>AS – Above Satisfactory</b>	<b>Exemplary Performance</b>	Student demonstrates <i>outstanding skill execution</i> and <i>exceeds minimum competency standards</i> . Performs procedures accurately, confidently, and in full compliance with safety and professional standards.	<ul style="list-style-type: none"><li>• Performs EKG setup and lead placement with precision and confidence</li><li>• Follows all infection control and patient safety protocols.</li><li>• Demonstrates advanced understanding of rhythm recognition and troubleshooting.</li><li>• Communicates effectively with the patient and maintains a professional demeanor.</li><li>• No errors or corrections required.</li></ul>



<b>S – Satisfactory</b>	<b>Competent Performance</b>	Student meets <i>minimum competency requirements</i> and performs skill correctly with minor errors that do not compromise patient safety or outcomes.	<ul style="list-style-type: none"><li>• Performs all required steps of the skill with acceptable accuracy</li><li>• Maintains infection control and patient communication standards</li><li>• Requires minimal prompting or correction from the instructor.</li><li>• Demonstrates adequate understanding of EKG procedures and rationale.</li></ul>
<b>U – Unsatisfactory</b>	<b>Needs Improvement</b>	Student exhibits <i>difficulty completing the skill</i> or performs with multiple errors that affect accuracy or safety. Requires remediation and additional practice.	<ul style="list-style-type: none"><li>• Incorrect or inconsistent lead placement or machine setup.</li><li>• Fails to maintain proper infection control or patient interaction.</li><li>• Requires significant instructor assistance or correction.</li><li>• Demonstrates partial understanding of skill purpose and sequence.</li></ul>



<b>I – Incomplete</b>	<b>Skill Not Demonstrated</b>	Student has <i>not yet demonstrated</i> the skill or was <i>absent during assessment</i> . Completion of the procedure is required to receive evaluation.	<ul style="list-style-type: none"><li>• Skill attempt not performed or not observed.</li><li>• Student must complete the skill under instructor supervision before grade is assigned.</li><li>• Documentation remains pending until skill demonstration.</li></ul>
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## Course Description

This course provides comprehensive training in electrocardiography (EKG/ECG), covering cardiac anatomy and physiology, EKG interpretation, lead placement, and patient care. Through a combination of lectures, hands-on practice, and real-world case studies, participants will learn to accurately identify normal and abnormal EKG patterns, recognize life-threatening arrhythmias, and apply appropriate nursing interventions.

Students will be proficient in the following after completion of the course:

- Understand the basic anatomy and physiology of the human body.
- Identify and interpret normal and abnormal EKG rhythms.
- Properly perform a 12-lead EKG with accurate electrode placement, supplies used, and reasons associated with placement.
- Recognize associated EKG equipment and troubleshoot problems associated with its use.
- Apply patient care protocols related to EKG procedures.

Topics you will learn include, but are not limited to:

- HIPAA and OSHA guidelines
- Ethics and Patient Rights
- Conduction Systems
- ECG waves & Intervals
- Normal & abnormal Arrhythmias
- Acute Coronary Syndromes & Ischemia
- How to locate Job Opportunities

### Course Prerequisite –

**All students enrolling in our EKG Technician Course must hold an active American Heart Association (AHA) CPR certification card before the start of class. Proof of certification is required at registration.**

### Program Outline:



<i><b>Course Day</b></i>	<i><b>Description</b></i>	<i><b>Lecture Hours</b></i>	<i><b>Lab Hours</b></i>	<i><b>Externship Hours</b></i>	<i><b>Total Clock Hours</b></i>
<i><b>Week 1</b></i>					
Session 1	<b>Introduction &amp; Roles of an EKG Technician</b>  In this session, students are introduced to the role and responsibilities of an EKG Technician, along with an overview of the course structure, objectives, and expectations. During this introductory module, students will explore basic human anatomy, medical terminology, computer basics, and professional development concepts to establish a strong foundational understanding of healthcare operations.	4	0	0	4
Session 2	<b>Electrical Conduction System of the Heart</b>  This session explains the SA node, AV node, and His-Purkinje pathways, reinforced by a quiz and a lab on the cardiac cycle.	4	2	0	6
<i><b>Week 2</b></i>					
Session 3	<b>EKG Equipment &amp; 12-Lead System</b>  Students learn about machine components, electrode types, and lead placement, followed by hands-on equipment demonstration and cable placement practice.	4	2	0	6
Session 4	<b>EKG Waveform &amp; Basic Interpretation</b>  Instruction covers ECG paper, sinus rhythms, and waveform basics, with lab activities focused on interpreting sinus rhythm strips.	4	2	0	6





<i>Week 3</i>					
Session 5	<b>Midterm &amp; Vectors &amp; Axis Determination</b> Students complete the midterm exam, then learn vectors, leads, and axis determination with guided practice on electrode placement and lead naming.	4	2.5	0	6.5
Session 6	<b>Rhythm Classifications</b> This session introduces sinus, atrial, junctional, and ventricular rhythms, with lab practice on strip review and rhythm classification using clinical examples.	4	2.5	0	6.5
<i>Week 4</i>					
Session 7	<b>Patient Safety &amp; Compliance</b> Students learn HIPAA, OSHA, infection control, and professional interaction standards, then practice compliance protocols in simulated patient intakes.	4	2.5	0	6.5
Session 8	<b>Lead Placement Lab Focus</b> The lecture emphasizes anatomic positioning and artifact prevention, while the lab provides hands-on practice with 12-lead placement and troubleshooting.	4	2.5	0	6.5
<i>Week 5</i>					
Session 9	<b>Strip Interpretation Intensive</b> Students dive deeper into advanced rhythm identification, heart blocks, and arrhythmia recognition, with guided strip reading in the lab.	3	3	0	6
Session 10	<b>Simulation &amp; Lab Day 1</b> This session prepares students for clinical cases through scenario walkthroughs, followed by mock EKG	3	3	0	6



	testing and rhythm documentation practice.				
<b>Week 6</b>					
Session 11	<b>Review &amp; Case Studies</b> Students review challenging rhythm concepts in lecture and apply their knowledge in case-based lab activities with patient response simulations.	2	3	0	5
Session 12	<b>Simulation &amp; Lab Day 2</b> A full lab session devoted to critical care simulations, where students practice EKG skills in high-stakes situations like V-fib and asystole.	0	3	0	3
<b>Week 7</b>					
Session 13	<b>Simulation &amp; Lab Day 3</b> Students participate in final simulation practice under testing conditions, reinforcing confidence and readiness for the exam.	0	4	0	4
Session 14	<b>Final Exam</b> The final comprehensive exam evaluates both written knowledge and practical skills, ensuring students are prepared for certification and clinical performance in EKG monitoring.	2 hours		0	2
	<b>TOTAL HOURS</b>	40 hours	32 hours	0	72 hours
	<b>TOTAL HOURS</b>				72 hours

## EKG Course Schedule (Total: 72 Hours)

**Duration: 7 Weeks | 2 Sessions per week (Approx. 4.5–6 hrs. each)**

**Schedule: 14 Sessions | 40 Hours Lecture + 32 Hours Lab**

### Week 1



## **Session 1 – Introduction & Roles of an EKG Technician**

- **Lecture (4 hrs.)**
  - Course orientation & syllabus overview
  - Intro to EKG
    - **Quiz 1**
    - Human Anatomy

## **Session 2 – Electrical Conduction System of the Heart**

- **Lecture (4 hrs.):** Electrical pathways – SA node, AV node, His-Purkinje system
  - **Quiz 2**
    - 10 MCQs – Roles of an EKG Technician
- **Lab (2 hrs.):** Cardiac Cycle

### **Week 2**

## **Session 3 – EKG Equipment & 12-Lead System**

- **Lecture (4 hrs.):** Machine components, electrode types, lead placement theory
  - **Quiz 3**
    - 10 MCQs - Electrical pathways – SA node, AV node, His-Purkinje system
- **Lab (2 hrs.):** Equipment demo, identifying leads, and cable placement

## **Session 4 – EKG Waveform & Basic Interpretation**

- **Lecture (4 hrs.):** ECG paper and Sinus Rhythms
  - **Quiz 4**
    - 10 MCQs - Machine components, electrode types, lead placement theory
- **Lab (2 hrs.):** Sinus Rhythm Interpretation

### **Week 3**

## **Session 5 – Midterm & Vectors & Axis Determination**

- **Lecture (4 hrs.):** Written midterm exam; Vectors, Leads, Electrodes
- **Midterm Exam**
  - Written Exam (25 MCQs)
- **Lab (2.5 hrs.):** Electrode placement, Lead naming, axis determination practice

## **Session 6 – Rhythm Classifications**

- **Lecture (4 hrs.):** Sinus, atrial, junctional, ventricular rhythms



- **Quiz 5**
  - 10 MCQs - Vectors, Leads, Electrodes
- **Lab (2.5 hrs.):** Strip review and classification practice with clinical examples

#### **Week 4**

##### **Session 7 – Patient Safety & Compliance**

- **Lecture (4 hrs.):** HIPAA, OSHA, infection control, and patient interaction
  - **Quiz 6**
    - 10 MCQs - Sinus, atrial, junctional, ventricular rhythms
- **Lab (2.5 hrs.):** Simulated intake, chart review, and compliance protocol drills

##### **Session 8 – Lead Placement Lab Focus**

- **Lecture (4 hrs.):** Anatomic positioning, preventing artifact, troubleshooting.
  - **Quiz 7**
    - 10 MCQs - HIPAA, OSHA, infection control, and patient interaction
- **Lab (2.5 hrs.):** Hands-on practice of 12-lead placements on peers/mannequins

#### **Week 5**

##### **Session 9 – Strip Interpretation Intensive**

- **Lecture (3 hrs.):** Advanced rhythm ID, heart blocks, and arrhythmia recognition
  - **Quiz 8**
    - 10 MCQs – Lead Placement
- **Lab (3 hrs.):** Intensive guided strip reading with instructor

##### **Session 10 – Simulation & Lab Day 1**

- **Lecture (3 hrs.):** Clinical case prep and scenario walkthrough
  - **Quiz 9**
    - 10 MCQs - Advanced rhythm ID, heart blocks, and arrhythmia recognition
- **Lab (3 hrs.):** Mock EKG testing and rhythm documentation

#### **Week 6**

##### **Session 11 – Review & Case Studies**

- **Lecture (2 hrs.):** Group review of difficult concepts and rhythm patterns



- **Lab (3 hrs.):** Realistic case reviews with strip matching and patient response

### **Session 12 – Simulation & Lab Day 2**

- **Lab (3 hrs.):** Critical care simulations (e.g., V-fib, asystole) with protocols

### **Week 7**

### **Session 13 – Simulation & Lab Day 3**

- **Lab (4 hrs.):** Final practice simulations under testing conditions

### **Session 14 – Final Exam**

- **Written & Practical Exam (2 hrs.):**
  - *Written & Practical Examination*
  - Final Written Exam (50 MCQs)
  - Practical: Strip interpretation, Lead placement, Patient scenario response
    - Post Course Evaluation & Certificate distribution

## **Attendance Policy:**

Attendance is mandatory for all scheduled class sessions and any other designated activities related to the course. The information taught on each course date is unique to that date, so if a student misses, they must make up the class to obtain the appropriate corresponding knowledge. In the event of missed class dates, students will need to contact the instructor to schedule make-up dates.

Students are expected to arrive on time and remain present for the entire duration of the class. Late arrivals and early departures may be considered partial absences and will be recorded accordingly.

Excused absences will be granted in cases of illness, personal emergencies, religious observances, or unexpected natural events. It is the responsibility of the student to notify the instructor in advance, whenever possible, and provide appropriate documentation to support the absence.

**ALL ABSENCES, EXCUSED OR UNEXCUSED, MUST BE MADE UP TO PASS THE COURSE.**



## **Class Cancellation Policy**

Class cancellations will only be in the event of unforeseen circumstances or emergencies. Students will be notified via email for cancellations, so they are expected to provide an operational and active email for contact. Additional methods, such as call and text, may also be used to ensure cancellation is received. In the event of a cancellation, rescheduled course dates will be sent out promptly, and students should be aware of updated dates as they come out. In the event of a cancellation, scheduling accommodations will be allowed at the convenience of the instructor and the students affected. In the event that accommodations cannot be made, refunds can be requested in the appropriate manner as stated in the refund policy.

## **Communication Methods**

Email is the preferred method of contacting the instructor. You should not assume I have received an email unless you have received a response from me. However, please allow at least 24 hours for a response. If you have not received a response and 24 hours have passed, you should resend your email.

## **Late Work & Make Ups**

When you miss class, you miss critical information necessary to complete the course. If you are absent, you are responsible for contacting the instructor to obtain the necessary materials to catch up in class. If you are absent when an assignment is due, you must have submitted the assignment before the due date to receive credit. All missed assignments must be made up. Please consult the Attendance policy regarding scheduling make-up work. Make-up days may potentially result in an additional day of the course. Please keep in mind that you must schedule make-up days with the instructor promptly.

## **Award of Certification Requirements**

Students are expected to obtain an overall grade of 80% or higher to pass this course. To obtain 80%, students have to demonstrate at a minimum an adequate understanding and demonstration of the basic phlebotomy objective training skills checklist.

## **Application of grades and credits**

These credit hours are not transferable to any other institution. Students should refer to their transcripts for accurate training log hours for lectures and clinical labs.

## **Obtaining Final Transcript and Certificate.**

To request a copy of your Final transcript and Certificate, please fill out the Certificate Request form on our website or in our office. Once complete, please allow up to 72 hours for email response.

## **Tuition and Fees**

### **Electrocardiography-**

- \$25 Application Fee (non-refundable)



- \$700 - Course Tuition
- **\$725 - Total Costs.**

## Refund Policy

Refund/Withdraw Request Form - <https://forms.gle/qXPYXFPWsG1ZFJHx6>

**To properly request a refund, a student must:**

1. Submit a written request for withdrawal/refund (Form in Office or Email) to Daphne Adams, Nurse Mom and Family CEO, email [ceo@nursemomandfamily.com](mailto:ceo@nursemomandfamily.com).
2. Return any institution-owned equipment/materials (if applicable)

**To Determine Your Refund Eligibility:**

If you withdraw before 50% of the course's Total Clock hours are complete, we'll refund the unused portion of your tuition for those hours. This refund will be issued based on the total clock hours completed by the student at the time of withdrawal. If you withdraw at or after 50%, no refund is due for the remaining clock hours forfeited. Any money paid for future segments not yet started will be refunded in full. Application fees are non-refundable. All refunds due under this policy are issued within 45 days of the Effective Withdrawal Date.

**How do we figure out your % completed?**

We look at how many Total Clock Hours have been completed by the day you withdraw (the "Effective Withdrawal Date"), then divide that by the total length of the segment, and turn it into a percent.

**Formula:**

Percent Completed = (Total Clock Hours completed up to the withdrawal date ÷ total time in that segment) × 100

**Example:**

12 of 40 hours have passed  $\Rightarrow 12/40 = 30\%$

## Readmission Policy

Once officially withdrawn, Students who are interested in readmission must initiate rejoining the course from the beginning of the process.

## Complaint Policy

If a resolution cannot be reached through informal means, the student may initiate a formal complaint process by submitting a written complaint to the course instructor. The written complaint should include the following details:

- Student's name and contact information
- Nature of the complaint
- Relevant dates, times, and individuals involved



- Any supporting documentation or evidence

Upon receipt of a formal complaint, we will initiate an investigation promptly. The investigation may involve gathering additional information from relevant parties, including instructors, staff, and witnesses. Every effort will be made to maintain confidentiality throughout the investigation process. Once the investigation is complete, we will communicate the findings to the student and take appropriate action to address the complaint. This may include corrective measures, revisions to course materials or policies, or other actions deemed necessary to resolve the issue satisfactorily.

Please note that if the student is not satisfied with the outcome of the complaint resolution, they may appeal the decision to the GNPEC. The appeal should be submitted in a written format and should include the following information

#### GNPEC Contact Information

2082 East Exchange Place

Tucker, GA 30084

Phone: 770- 414-3300

<https://gnpec.georgia.gov/student-resources/complaints-against-institution>

An impartial panel or designated authority will review the appeal and render a final decision. The decision of the appeal panel will be communicated to the student in writing and will be considered final. Nurse Mom and Family prohibit retaliation against any student who raises a complaint in good faith. Students can rest assured that their complaints will be handled professionally and without prejudice. Additionally, records of all complaints, investigations, and resolutions will be maintained in accordance with applicable privacy laws and regulations.

## Career Services

With the broad scope of knowledge our management team has about navigating the healthcare overall job force, we feel confident we can provide students with the following.

- 1) **Resume Review:** Our team will work with you to create a professional resume tailored to the healthcare industry. We'll highlight your skills, training, and relevant experience to showcase your qualifications to potential employers.
- 2) **Job Search Assistance:** We offer assistance with job searching strategies, including tips on where to find current job openings, how to network effectively, and how to navigate online job boards. While we may provide relevant local job positions and employment opportunities, **WE DO NOT GUARANTEE ANY JOB PLACEMENT.**
- 3) **Career Advice:** For those unsure of their future in nursing, our team would be happy to help you explore your interests, strengths, and goals to determine the best career trajectory for you. We'll provide personalized guidance and resources to support your career aspirations.
- 4) **Networking Opportunities:** We aim to connect students with the healthcare community at large as well as trained specialists through networking events, career fairs, and online platforms.





Building a strong professional network can open doors to exciting career opportunities and valuable mentorship.

- 5) **Further Education Resources:** Interested in advancing your education or pursuing additional specialized certifications? We'll provide information and resources on additional training programs, certification exams, and educational opportunities to help you achieve your long-term career goals.
- 6) **Library & Media Resources:** Our space is equipped with several literary and media devices to support your educational searches. You can utilize our on-hand textbooks, research articles, and journals, or search the web with one of our handy computers.

**The syllabus is a general plan for the course. It is subject to change when necessary and will be announced to the class by the instructor.**