



Ministry of Education  
REPUBLIC OF GHANA



NaCCA  
NATIONAL COUNCIL FOR  
CURRICULUM & ASSESSMENT

# SUBJECT COMBINATION GUIDELINES

ON THE NEW CURRICULUM FOR  
SENIOR HIGH SCHOOLS (SHS),  
SENIOR HIGH TECHNICAL SCHOOLS (SHTS)  
AND STEM SCHOOLS



## INTRODUCTION

This document provides guidance on the recommended subject combinations in the new Senior High School (SHS), Senior High Technical School (SHTS) and STEM curriculum. It aims to offer greater flexibility, enabling learners to pursue subjects aligned with their interests and career aspirations. The guidelines outline the minimum and maximum number of subjects for external assessments, mandatory subjects and pathways for Junior High School (JHS) graduates entering SHSs, SHTSs and STEM schools. Schools are advised to adapt the guidelines based on their resources and focus areas to ensure diverse opportunities for learners both in tertiary education and the job market.

- Learners can **exit with a minimum of seven (7) subjects and a maximum of nine (9) subjects to be externally assessed through the WASSCE**. In addition, learners may study additional subjects only in year one or up to year two. The additional subjects will be assessed internally and the results captured in the transcripts. The transcripts will supplement admission requirements into the tertiary institutions.
- *It is mandatory for all year two learners to study Robotics and Coding if facilities are available. This subject will be assessed internally and the results captured in the transcripts.*
- JHS graduates entering the Senior High School (SHS), and Senior High Technical School (SHTS) will select from nine (9) learning areas. Once learners are placed in schools, they will have the opportunity to combine different subjects around their chosen learning areas. Those entering STEM schools will select from six learning areas.

**Note:** *The selection of the learning areas and the subject combination are dependent on the individual school's capacity (resources) and focus areas.*

- The subject combination provides learners with more flexible pathways at the tertiary level or the opportunity to pursue different career options in the world of work. Learners can have flexibility within a learning area and flexibility between learning areas. Flexibility between learning areas creates multiple pathways. Refer to Table 1 to Table 9 for details.
- It is recommended that the heads of Senior High School (SHS), Senior High Technical School (SHTS) and Science, Technology, Engineering and Mathematics (STEM) contextualise the implementation of the subject-combination guidelines.

## Learning Areas

### *Learning Areas for SHS and SHTS:*

1. Science
2. General Arts
3. Business
4. Applied Technology
5. Home Economics
6. Visual and Performing Art
7. Agriculture
8. Languages
9. Global Studies

### *Learning Areas for STEM Schools:*

1. Engineering
2. Biomedical Science
3. Manufacturing
4. Information Technology
5. Computer Science
6. Robotics
7. Aviation and Aerospace







# SHS and SHTS LEARNING AREAS

- Science
- General Arts
- Business
- Applied Technology
- Visual and Performing Art
- Agriculture
- Languages
- Home Economics
- Global Studies

**Table 1: LEARNING AREA - SCIENCE**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (OTHER ELECTIVES)
These are <b>core</b> subjects for learners.	These are <b>mandatory</b> subjects for learners	Learners may <b>select ONE or TWO</b> subjects.	Learners may also <b>select ONE or TWO</b> subjects.
<ol style="list-style-type: none"> <li>Mathematics</li> <li>Social Studies</li> <li>English Language</li> </ol> <ol style="list-style-type: none"> <li>PEH (Core - not externally examinable)</li> <li>Robotics and coding (mandatory for all year 2 learners if facilities are available)</li> </ol>	<ol style="list-style-type: none"> <li>Biology</li> <li>Chemistry</li> <li>Physics</li> </ol>	<ol style="list-style-type: none"> <li>Additional Mathematics</li> <li>Automobile and Metal Technology</li> <li>Building Construction and Wood Technology</li> <li>Electrical and Electronic Technology</li> <li>Design &amp; Communication Technology</li> <li>Food and Nutrition</li> <li>Clothing and Textiles</li> <li>Art and Design Foundation</li> <li>ICT</li> <li>Agriculture</li> <li>Computer Science</li> <li>Geography</li> <li>PEH (Elective)</li> </ol>	<ol style="list-style-type: none"> <li>Economics</li> <li>Government</li> <li>History</li> <li>Christian Religious Studies</li> <li>Islamic Religious Studies</li> <li>RME</li> <li>Ghanaian Language</li> <li>Arabic</li> <li>French</li> <li>Literature in English</li> <li>Music</li> <li>Management in Living</li> <li>Performing Arts</li> <li>Business Management</li> <li>Accounting</li> <li>Art and Design Studio</li> </ol>

NB: Learners who select:

- Two subjects from Group C can only select one subject from Group D
- One subject from Group C can only select two subjects from Group D

**Table 2: LEARNING AREA - GENERAL ARTS**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (OTHER ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner <b>must select TWO or THREE</b> subjects.	Learners may also select <b>ONE or TWO</b> subjects.	Learners may also <b>select ONE or Two</b> subjects.
<ol style="list-style-type: none"> <li>Mathematics</li> <li>Social Studies</li> <li>English Language</li> <li>General Science</li> </ol> <ol style="list-style-type: none"> <li>PEH (core - not externally examinable)</li> <li>Robotics and coding ( mandatory for all year 2 learners if facilities are available)</li> </ol>	<ol style="list-style-type: none"> <li>Economics</li> <li>Geography</li> <li>Government</li> <li>History</li> <li>Christian Religious Studies</li> <li>Islamic Religious Studies</li> <li>Literature in English</li> <li>Music</li> </ol>	<ol style="list-style-type: none"> <li>Art and Design Foundation</li> <li>Performing Arts</li> <li>Ghanaian Language</li> <li>Arabic</li> <li>French</li> <li>Spanish</li> <li>Management in Living</li> <li>RME</li> <li>Business Management</li> <li>Accounting</li> </ol>	<ol style="list-style-type: none"> <li>Agriculture</li> <li>Biology</li> <li>Chemistry</li> <li>Computer Science</li> <li>Physics</li> <li>Additional Mathematics</li> <li>Agricultural Science</li> <li>ICT</li> <li>PEH (Elective)</li> <li>Automobile and Metal Technology</li> <li>Building Construction and Wood Technology</li> <li>Electrical and Electronic Technology</li> <li>Food and Nutrition</li> <li>Clothing and Textiles</li> <li>Art and Design Studio</li> </ol>

NB: Learners who select:

- Three subjects from Group B can select one subject from Group C and one subject from Group D
- Three subjects from Group B can select only two subjects from either Group C or Group D
- Two subjects from Group B can select two subjects from Group C and one from either Group D or Two subjects from Group D and one from Group C



**Table 3: LEARNING AREA - BUSINESS**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (OTHER ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner must study a <b>MINIMUM of THREE and MAXIMUM of FOUR</b> subjects.	Learners may <b>also select ONE or TWO</b> subjects.	Learners may also <b>select ONE or TWO</b> subjects.
1. Mathematics 2. Social Studies 3. English Language 4. General Science  1. PEH (Core - not externally examinable) 2. Robotics and coding (mandatory for all year 2 learners if facilities are available)	Each learner must study <b>TWO MANDATORY</b> subjects: 1. Business Management 2. Accounting  And select <b>ONE or TWO</b> of the following <b>OPTIONS</b> : 1. Economics 2. Computer Science (ICT in Business) 3. Additional Mathematics	1. Arabic 2. French 3. Spanish 4. Music 5. Food and Nutrition 6. Clothing and Textiles 7. Management in Living 8. Design & Communication Technology 9. Art and Design Studio 10. Agricultural Science 11. Government 12. History 13. Performing Arts	1. Agriculture 2. Biology 3. Chemistry 4. Physics 5. PEH (Elective) 6. Geography 7. Christian Religious Studies 8. Islamic Religious Studies 9. Literature in English 10. Art and Design Foundation

NB: Learners who select:

- i. Four subjects (2 mandatory subjects and 2 options) from Group B can select only one subject from Group C or Group D*
- ii. Three subjects (2 mandatory subjects and 1 option) from Group B can select either:*
  - a. one subject from Group C and one subject from Group D or*
  - b. two subjects from either Group C or Group D*

**Table 4: LEARNING AREA - APPLIED TECHNOLOGY**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (OTHER ELECTIVES)
These are core subjects for learners.	Each learner must select a <b>MINIMUM of TWO and MAXIMUM of FOUR</b> subjects.	Learners may also select <b>ONE or TWO</b> subjects.	Learners may also select <b>ONE or TWO</b> subjects.
1. Mathematics 2. Social Studies 3. English Language 4. General Science  1. PEH (not externally examinable) 2. Robotics and coding (mandatory for all year 2 learners if facilities are available)	Each learner <b>MUST</b> study <b>ONE MANDATORY</b> subject: 1. Design & Communication Technology  And select from options 1 and 2  <b>OPTION 1</b> Select <b>one</b> of the following 1. Automobile and Metal Technology 2. Building Construction and Wood Technology 3. Electrical and Electronic Technology  <b>OPTION 2</b> Select <b>one or two</b> of the following: 1. Physics 2. Additional Mathematics 3. Art and Design Foundation	1. Agriculture 2. Biology 3. Chemistry 4. Computer Science 5. PEH (elective) 6. Art and Design Studio 7. Food and Nutrition 8. Clothing and Textiles 9. ICT 10. Agricultural Science 11. Business Management	1. Geography 2. Economics 3. Government 4. History 5. Christian Religious Studies 6. Islamic Religious Studies 7. RME 8. Literature in English 9. Ghanaian Language 10. Arabic 11. French 12. Music 13. Accounting 14. Management in Living 15. Performing Arts

NB: Learners who select:

- i. four subjects from Group B can select only one subject from either Group C or Group D*
- tii. three subjects from Group B can select either:*
  - a. one subject from Group C and one subject from Group D or*
  - b. two subjects from either Group C or Group D*

**Table 5: LEARNING AREA - HOME ECONOMICS**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (OTHER ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner must study <b>THREE</b> subjects.	Learners may also select <b>ONE</b> or <b>TWO</b> of the subjects.	Learners may also select <b>ONE</b> or <b>TWO</b> of the subjects.
1. Mathematics 2. Social Studies 3. English Language 4. General Science  1. PEH (Core - not externally examinable) 2. Robotics and coding (mandatory for all year 2 learners if facilities are available)	Each learner <b>MUST</b> study one <b>MANDATORY</b> subject: 1. Management in Living  And select only <b>ONE</b> subject from Option 1 and only one subject from Option 2  <b>OPTION 1</b> 1. Clothing and Textiles 2. Food and Nutrition  <b>OPTION 2</b> 1. Biology 2. Chemistry	1. Art and Design Foundation 2. Art and Design Studio 3. Performing Arts 4. Physics 5. Additional Mathematics 6. ICT 7. PEH (Elective) 8. Economics 9. Agricultural Science 10. Arabic 11. French 12. Ghanaian Language 13. Business Management 14. Accounting	1. Geography 2. Government 3. History 4. Christian Religious Studies 5. Islamic Religious Studies 6. RME 7. Literature in English 8. Computer Science 9. Music 10. Automobile and Metal Technology 11. Building Construction and Wood Technology 12. Electrical and Electronic Technology

NB: Learners who select:

*i. three subjects from Group B can select:*

*a. two subjects from either Group C or two subjects from Group D or*

*b. one subject from Group C and one subject from Group D*

**Table 6: LEARNING AREA - VISUAL AND PERFORMING ARTS**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (OTHER ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner must study a <b>MINIMUM</b> of <b>TWO</b> and <b>MAXIMUM</b> of <b>FOUR</b> subjects.	Learners may select <b>ONE</b> or <b>TWO</b> subjects.	Learners may select <b>ONE</b> or <b>TWO</b> subjects.
1. Mathematics 2. Social Studies 3. English Language 4. General Science  1. PEH (Core - not externally examinable) 2. Robotics and coding (mandatory for all year 2 learners if facilities are available)	Each learner <b>MUST</b> study one <b>MANDATORY</b> subject: 1. Art and Design Foundation  And select <b>ONE, TWO</b> or <b>THREE</b> of the following Options:  1. Art and Design Studio 2. Design & Communication Technology 3. Music 4. Performing Arts	1. Automobile and Metal Technology 2. Building Construction and Wood Technology 3. Electrical and Electronic Technology 4. Management in Living 5. Food and Nutrition 6. Clothing and Textiles 7. History 8. Literature in English 9. Ghanaian Language 10. Arabic 11. French 12. Business Management 13. PEH (Elective)	1. Agriculture 2. Chemistry 3. Computer Science 4. Physics 5. Additional Mathematics 6. Agricultural Science 7. ICT 8. Christian Religious Studies 9. Islamic Religious Studies 10. RME 11. Geography 12. Government 13. Economics 14. Accounting 15. Biology

NB: Learners who select:

*a. four subjects from Group B can select only one subject from either Group C or Group D*

*b. three subjects from Group B can select either:*

*1. one subject from Group C and one subject from Group D or 2. two subjects from either Group C or Group D*

*c. two subjects from Group B can select either:*

*1. two subjects from Group C and one from Group D or 2. two subjects from Group D and one from Group C*



**Table 7: LEARNING AREA - AGRICULTURE**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (OTHER ELECTIVES)
These are <b>core</b> subjects for learners.	Learner must study a <b>MINIMUM of ONE</b> and <b>MAXIMUM of THREE</b> of the subjects.	Learners may also select <b>ONE or TWO</b> subjects.	Learners may <b>select ONE or TWO</b> subjects.
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. General Science</li> </ol> <ol style="list-style-type: none"> <li>1. PEH (Core - not externally examinable)</li> <li>2. Robotics and coding (mandatory for all year 2 learners if facilities are available)</li> </ol>	<p>Each learner <b>MUST study ONE MANDATORY</b> subject:</p> <ol style="list-style-type: none"> <li>1. Agriculture</li> </ol> <p>And <b>select TWO</b> of the following:</p> <ol style="list-style-type: none"> <li>1. Chemistry</li> <li>2. Physics</li> <li>3. Biology</li> </ol>	<ol style="list-style-type: none"> <li>1. Food and Nutrition</li> <li>2. Clothing and Textiles</li> <li>3. Design &amp; Communication Technology</li> <li>4. Computer Science</li> <li>5. Additional Mathematics</li> <li>6. ICT</li> <li>7. PEH (Elective)</li> <li>8. Automobile and Metal Technology</li> <li>9. Building Construction and Wood Technology</li> <li>10. Electrical and Electronic Technology</li> <li>11. Economics</li> <li>12. Geography</li> <li>13. Business Management</li> </ol>	<ol style="list-style-type: none"> <li>1. Government</li> <li>2. Literature in English</li> <li>3. Christian Religious Studies</li> <li>4. Islamic Religious Studies</li> <li>5. RME</li> <li>6. Music</li> <li>7. Management in Living</li> <li>8. Accounting</li> <li>9. Performing Arts</li> <li>10. Ghanaian Language</li> <li>11. French</li> <li>12. Arabic</li> <li>13. Art and Design Foundation</li> <li>14. Art and Design Studio</li> </ol>

NB: Learners who select:

*i. three subjects from Group B can select either:*

*a. one subject from Group C and one subject from Group D or*

*b. two subjects from either Group C or Group D*

*ii. one subject from Group B can select two subjects from Group C and two from Group D*

**Table 8: LEARNING AREA - LANGUAGES**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (SCIENCE ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner must study a <b>MINIMUM of TWO</b> and <b>MAXIMUM of THREE</b> subjects.	Learners may select <b>ONE or TWO</b> subjects.	Learners may select <b>ONE or TWO</b> subjects.
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. General Science</li> </ol> <ol style="list-style-type: none"> <li>1. PEH (Core - not externally examinable)</li> <li>2. Robotics and coding (mandatory for all year 2 learners if facilities are available)</li> </ol>	<ol style="list-style-type: none"> <li>1. Ghanaian Language</li> <li>2. French</li> <li>3. Arabic</li> <li>4. Spanish</li> <li>5. Literature in English</li> </ol>	<ol style="list-style-type: none"> <li>1. Economics</li> <li>2. Geography</li> <li>3. Government</li> <li>4. History</li> <li>5. Christian Religious Studies</li> <li>6. Islamic Religious Studies</li> <li>7. RME</li> <li>8. Art and Design Foundation</li> <li>9. Performing Arts</li> <li>10. Management in Living</li> <li>11. Music</li> </ol>	<ol style="list-style-type: none"> <li>1. Biology</li> <li>2. Chemistry</li> <li>3. Computer Science</li> <li>4. Physics</li> <li>5. Additional Mathematics</li> <li>6. Agricultural Science</li> <li>7. PEH (Elective)</li> <li>8. Agriculture</li> <li>9. Business Management</li> <li>10. Accounting</li> <li>11. Food and Nutrition</li> <li>12. Clothing and Textiles</li> <li>13. ICT</li> <li>14. Automobile and Metal Technology</li> <li>15. Building Construction and Wood Technology</li> <li>16. Electrical and Electronic Technology</li> <li>17. Design &amp; Communication Technology</li> <li>18. Art and Design Studio</li> </ol>

NB: Learners who select:

*i. three subjects from Group B can select either:*

*a. one subject from Group C or one subject from Group D*

*ii. two subjects from Group B can select one subject from Group C and one subject from Group D*



**Table 9: LEARNING AREA - GLOBAL STUDIES**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (RELATED LEARNING AREA ELECTIVES)	GROUP D (SCIENCE ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner must study a <b>ONE MANDATORY</b> subject and <b>select TWO</b> subjects.	Learners may <b>select ONE or TWO</b> subjects.	Learners may <b>select ONE or TWO</b> subjects.
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. General Science</li> </ol> <ol style="list-style-type: none"> <li>1. PEH (not externally examinable)</li> <li>2. Robotics and coding (mandatory for all year 2 learners if facilities are available)</li> </ol>	<p>Each learner must study one <b>MANDATORY</b> subject:</p> <ol style="list-style-type: none"> <li>1. Geography</li> </ol> <p>And select two from the following:</p> <ol style="list-style-type: none"> <li>1. Law and Diplomacy</li> <li>2. One Foreign Languages(French, Arabic, Spanish, )</li> <li>3. International Trade</li> </ol>	<ol style="list-style-type: none"> <li>1. Business Management</li> <li>2. Accounting</li> <li>3. Economics</li> <li>4. Government</li> <li>5. History</li> <li>6. Design &amp; Communication Technology</li> <li>7. Performing Arts</li> <li>8. Literature in English</li> </ol>	<ol style="list-style-type: none"> <li>1. Biology</li> <li>2. Chemistry</li> <li>3. Computer Science</li> <li>4. Physics</li> <li>5. Additional Mathematics</li> <li>6. Agricultural Science</li> <li>7. Automobile and Metal Technology</li> <li>8. Building Construction and Wood Technology</li> <li>9. Electrical and Electronic Technology</li> <li>10. Art and Design Studio</li> </ol>

NB: Learners who select:

*i. three subjects from Group B can select either:*

*a. one subject from Group C or one subject from Group D*

*ii. two subjects from Group B can select one subject from Group C and one subject from Group D*



# STEM

## LEARNING AREAS

- Engineering
- Biomedical Science
- Manufacturing
- Robotics
- Information Technology
- Computer Science
- Aviation and Aerospace



Table 10: **LEARNING AREA - ENGINEERING**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (ADDITIONAL ELECTIVES)	GROUP D (HUMANITIES ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner <b>must study FIVE</b> subjects.	Learners <b>MUST study ONE</b> of these subjects <b>ANNUALLY</b>	Learners may also <b>select ONE</b> subject from this list
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. PEH (not externally examinable)</li> </ol>	Each learner <b>MUST study mandatory</b> subjects: <ol style="list-style-type: none"> <li>1. Chemistry</li> <li>2. Biology</li> <li>3. Physics</li> <li>4. Additional Mathematics</li> <li>5. Engineering</li> </ol>	<ol style="list-style-type: none"> <li>1. Art and Design Foundation</li> <li>2. Robotics</li> <li>3. Computer Science</li> <li>4. Music</li> </ol>	<ol style="list-style-type: none"> <li>1. Economics</li> <li>2. Geography</li> <li>3. Government</li> <li>4. History</li> <li>5. Religious Studies</li> <li>6. Literature in English</li> <li>7. Ghanaian Languages</li> <li>8. Arabic</li> <li>9. French</li> <li>10. Performing Arts</li> </ol>

NB: Subjects in Group C are NOT externally examinable. Learners must study ONE every year.

Table 11: **LEARNING AREA - BIOMEDICAL SCIENCE**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (ADDITIONAL ELECTIVES)	GROUP D (HUMANITIES ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner <b>must study FIVE</b> subjects.	Learners <b>MUST study ONE</b> of these subjects <b>ANNUALLY</b>	Learners may also <b>select ONE</b> subject from this list
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. PEH (not externally examinable)</li> </ol>	Each learner <b>MUST study mandatory</b> subjects: <ol style="list-style-type: none"> <li>1. Chemistry</li> <li>2. Biology</li> <li>3. Physics</li> <li>4. Additional Mathematics</li> <li>5. Biomedical Science</li> </ol>	<ol style="list-style-type: none"> <li>1. Art and Design Foundation</li> <li>2. Computer Science</li> <li>3. Music</li> </ol>	<ol style="list-style-type: none"> <li>1. Economics</li> <li>2. Geography</li> <li>3. Government</li> <li>4. History</li> <li>5. Religious Studies</li> <li>6. Literature in English</li> <li>7. Ghanaian Languages</li> <li>8. Arabic</li> <li>9. French</li> <li>10. Performing Arts</li> </ol>

NB: Subjects in Group C are NOT externally examinable. Learners must study ONE every year.

**Table 12: LEARNING AREA - MANUFACTURING**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (ADDITIONAL ELECTIVES)	GROUP D (HUMANITIES ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner <b>must study FIVE</b> subjects.	Learners <b>MUST study ONE</b> of these subjects <b>ANNUALLY</b>	Learners may also <b>select ONE</b> subject from this list
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. PEH (not externally examinable)</li> </ol>	Each learner <b>MUST study mandatory</b> subjects: <ol style="list-style-type: none"> <li>1. Chemistry</li> <li>2. Biology</li> <li>3. Physics</li> <li>4. Additional Mathematics</li> <li>5. Manufacturing Engineering</li> </ol>	<ol style="list-style-type: none"> <li>1. Art and Design Foundation</li> <li>2. Computer Science</li> <li>3. Music</li> </ol>	<ol style="list-style-type: none"> <li>1. Economics</li> <li>2. Geography</li> <li>3. Government</li> <li>4. History</li> <li>5. Religious Studies</li> <li>6. Literature in English</li> <li>7. Ghanaian Languages</li> <li>8. Arabic</li> <li>9. French</li> <li>10. Performing Arts</li> </ol>

NB: Subjects in Group C are NOT externally examinable. Learners must study ONE every year.

**Table 13: LEARNING AREA - INFORMATION TECHNOLOGY**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (ADDITIONAL ELECTIVES)	GROUP D (HUMANITIES ELECTIVES)
These are <b>core</b> subjects for learners.	Each learner <b>must study FIVE</b> subjects.	Learners <b>MUST study ONE</b> of these subjects <b>ANNUALLY</b>	Learners may also <b>select ONE</b> subject from this list
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. PEH (not externally examinable)</li> </ol>	Each learner <b>MUST study mandatory</b> subjects: <ol style="list-style-type: none"> <li>1. Chemistry</li> <li>2. Biology</li> <li>3. Physics</li> <li>4. Additional Mathematics</li> <li>5. Information Technology</li> </ol>	<ol style="list-style-type: none"> <li>1. Art and Design Foundation</li> <li>2. Computer Science</li> <li>3. Music</li> </ol>	<ol style="list-style-type: none"> <li>1. Economics</li> <li>2. Geography</li> <li>3. Government</li> <li>4. History</li> <li>5. Religious Studies</li> <li>6. Literature in English</li> <li>7. Ghanaian Languages</li> <li>8. Arabic</li> <li>9. French</li> <li>10. Performing Arts</li> </ol>

NB: Subjects in Group C are NOT externally examinable. Learners must study ONE every year.



**Table 14: LEARNING AREA - COMPUTER SCIENCE**

<b>GROUP A (CORE)</b>	<b>GROUP B (LEARNING AREA ELECTIVES)</b>	<b>GROUP C (ADDITIONAL ELECTIVES)</b>	<b>GROUP D (HUMANITIES ELECTIVES)</b>
These are <b>core</b> subjects for learners.	Each learner <b>must study FIVE</b> subjects.	Learners <b>MUST study ONE</b> of these subjects <b>ANNUALLY</b>	Learners may also <b>select ONE</b> subject from this list.
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. PEH (not externally examinable)</li> </ol>	Each learner <b>MUST</b> study the following <b>mandatory</b> subjects: <ol style="list-style-type: none"> <li>1. Chemistry</li> <li>2. Biology</li> <li>3. Physics</li> <li>4. Additional Mathematics</li> <li>5. Computer Science</li> </ol>	<ol style="list-style-type: none"> <li>1. Art and Design Foundation</li> <li>2. Robotics</li> <li>3. Music</li> </ol>	<ol style="list-style-type: none"> <li>1. Economics</li> <li>2. Geography</li> <li>3. Government</li> <li>4. History</li> <li>5. Religious Studies</li> <li>6. Literature in English</li> <li>7. Ghanaian Languages</li> <li>8. Arabic</li> <li>9. French</li> <li>10. Performing Arts</li> </ol>

NB: Subjects in Group C are NOT externally examinable. Learners must study ONE every year.

**Table 15: LEARNING AREA - AVIATION AND AEROSPACE**

<b>GROUP A (CORE)</b>	<b>GROUP B (LEARNING AREA ELECTIVES)</b>	<b>GROUP C (ADDITIONAL ELECTIVES)</b>	<b>GROUP D (HUMANITIES ELECTIVES)</b>
These are <b>core</b> subjects for learners.	Each learner <b>must study FIVE</b> subjects.	Learners <b>MUST study ONE</b> of these subjects <b>ANNUALLY</b>	Learners may <b>also select ONE</b> subject from this list.
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. PEH (not externally examinable)</li> </ol>	Each learner <b>MUST</b> study the following <b>mandatory</b> subjects: <ol style="list-style-type: none"> <li>1. Chemistry</li> <li>2. Biology</li> <li>3. Physics</li> <li>4. Aviation Technology</li> <li>5. Aerospace Engineering</li> </ol>	<ol style="list-style-type: none"> <li>1. Art and Design Foundation</li> <li>2. Robotics</li> <li>3. Music</li> </ol>	<ol style="list-style-type: none"> <li>1. Economics</li> <li>2. Geography</li> <li>3. Government</li> <li>4. History</li> <li>5. Religious Studies</li> <li>6. Literature in English</li> <li>7. Ghanaian Languages</li> <li>8. Arabic</li> <li>9. French</li> <li>10. Additional Mathematics</li> <li>11. Performing Arts</li> </ol>

NB: Subjects in Group C are NOT externally examinable. Learners must study ONE every year.

Table 16: **LEARNING AREA - ROBOTICS**

GROUP A (CORE)	GROUP B (LEARNING AREA ELECTIVES)	GROUP C (ADDITIONAL ELECTIVES)	GROUP D (HUMANITIES ELECTIVES)
These are core subjects for learners.	Each learner must study FIVE subjects.	Note: Learners must choose one of these subjects <b>annually</b>	Learners may also choose <b>ONE</b> subject from this list
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Social Studies</li> <li>3. English Language</li> <li>4. PEH (<i>not externally examinable</i>)</li> </ol>	Each learner <b>MUST</b> study <b>mandatory</b> subjects: <ol style="list-style-type: none"> <li>1. Robotics</li> <li>2. Additional Mathematics</li> <li>3. Physics</li> <li>4. Biology</li> <li>5. Chemistry</li> </ol>	<ol style="list-style-type: none"> <li>1. Art and Design Foundation</li> <li>2. Computer Science</li> <li>3. Music</li> </ol>	<ol style="list-style-type: none"> <li>1. Economics</li> <li>2. Geography</li> <li>3. Government</li> <li>4. History</li> <li>5. Religious Studies</li> <li>6. Literature in English</li> <li>7. Ghanaian Languages</li> <li>8. Arabic</li> <li>9. French</li> <li>10. Performing Arts(Music, Dance, Drama)</li> </ol>




**NB:** Subjects in Group C are **NOT** externally examinable. Learners must study **ONE** every year.






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       Naccaghana

 [www.nacca.gov.gh](http://www.nacca.gov.gh)  [naccaghana@gmail.com](mailto:naccaghana@gmail.com)  +233 (0) 302909071

 Literacy House Complex, Off Independence Avenue, Accra