Theme 5 – Science and Technology (GED0015) PLAR

General Education

The purpose of General Education (Gen Ed) courses in the Ontario college system is to develop educated citizens who are aware of the diversity, complexity and richness of human life and are able to contribute thoughtfully, creatively and positively to the society in which they live and work.

Gen Ed courses provide opportunities for learners to explore questions related to the issues and values raised by the subject matter, along with their application to contemporary life, covering at least two of the following:

- ethics and values
- historical context
- theoretical origins

General Education Themes

Depending on their length, Algonquin College programs typically include one or two general education online electives. General Education courses cover areas of general interest and are divided into five themes:

1 – Arts in Society
2 – Personal Understanding
3 – Social and Cultural Understanding
4 – Personal Understanding
5 – Science and Technology

Check your program of study to determine which of the above themes are available to you within your program. This will help you decide which Student Resource Guide to use as you apply for credit through the PLAR process.

Theme 5: Science and Technology (GED0015)

Rationale
Matter and energy form the basis of all living and non-living systems, the nature and interactions of which are the focus of all scientific study. Science provides an understanding of all natural phenomena, while technology utilizes them for human benefit. As science driven by economic motors, technology increasingly impacts all aspects of human endeavour with myriad psychosocial, cultural, economic and philosophical implications. For example, the integration of computers into almost every aspect of human life—unique in human history—has far-reaching implications for the environment that supports us and even for our survival as a species.

Content
Courses in this area range in focus from the basics of the scientific method to the diverse technological applications that have changed—and will continue to change—our lives for better and worse. While students may develop a wary eye for the dangers of technological excess and encroachment into every aspect of our collective being, they also explore ways that new technology can be used to right the wrongs of old technology, especially with regard to the environment. Other technologies explored may also bring us to a deeper understanding of ourselves and our place in the environment and universe.

Theme 5 – Science and Technology (GED0015) PLAR

Objectives

Here are the learning outcomes associated with courses within the Science and Technology Gen Ed theme.

Scientific Foundations

1. Explore the nature of matter, energy, and related universal concepts in science.

2. Consider the nature and interactions of living and non-living systems in the universe.

3. Illustrate the relationships between basic areas of science such as chemistry, physics, astronomy, geology, and biology, as well as mathematics and the social sciences.

4. Apply the scientific method to conduct basic scientific inquiry.

5. Discuss the impact of science in a world that still clings to traditions and superstitions.

Technological Advancement

6. Discuss the role of technological innovation in a world imperiled by previous technologies.

7. Evaluate the increasing impact of technology on all aspects of human endeavour.

8. Analyze the myriad psychosocial, economic, and philosophical implications of technology.

Theme 5 – Science and Technology (GED0015) PLAR

Are You Eligible for PLAR Credit under Theme 5? Self-Assessment

Complete the following self-evaluation to determine which past experiences you have that might qualify you for a Science and Technology Theme (GED0015) PLAR credit.

Before you devote your time and financial resources to this PLAR application, please answer **Yes** or **No** to the following four questions to determine if your application in Gen Ed Theme 5 is likely to succeed.

Have you ever…

1. pursued a strong interest in scientific topics outside of school (e.g., for curiosity or work)?
2. considered the depth of your lifelong relationship with technology?
3. committed to technologies that will help save rather than destroy the environment?
4. used science to gain a deeper understanding of your origins and place in the universe?

If you answered **No** to all of the above, please visit the [PLAR website](#) to choose a more appropriate General Education Theme to PLAR.

If you answered **Yes** to any of the above, ask yourself if your experience and prior learning is of suitable depth for a successful PLAR application. Your application will have a good chance of succeeding if you are confident that your science and technology experience:

1. lasted for months or years rather than a few days or weeks **(Duration)**
2. helped you reflect on new ideas about yourself, your community and the world **(Impact)**
3. exposed you to new concepts, especially related to theory, history and ethics **(Learning)**
4. provided you with a depth of life experience beyond mere facts and skills **(Experience)**

Here are some life experience examples that would NOT result in a successful Gen Ed Theme 5 PLAR:

✗ *"Not gonna lie, i average like 50 texts per day, on facebook twitter instagram pinterest and reddit pretty much constantly, computer all day work at call centre, video games till 2am, guess u could say ima slave 2 technology LOL but whatevs, yolo"*

✗ *"I read my horoscope every day to see how my destiny lines up with the stars."*

On the other hand, the following experiences MAY result in a successful Gen Ed Theme 5 PLAR:

✓ *"A year ago, I began exercising and eating more healthily with the help of a fitness trainer and dietician. I can already see the positive personal effects of these changes."*

✓ *"Since declaring bankruptcy in 2003, I got my personal finances in order by budgeting to live within my means, managing debt, paying taxes, and saving for the future."*

✓ *"In my years as a social worker, I've helped well over 200 hundred people deal with aspects of physical, sexual, and emotional abuse. While it's awful and depressing how bad some people have it, I'm always amazed by the resiliency of the human spirit."*

Theme 5 – Science and Technology (GED0015) PLAR

If you believe your experiences are of a suitable depth, please answer the four self-assessment questions again, this time using the online self-assessment form. If you are able to provide evidence of learning for all four questions in any one section, you may be a good candidate to proceed with the PLAR process.

The next step is to apply online for a PLAR, and attach your completed self-assessment form.

The academic area will confirm whether you are a good candidate for this PLAR. It is recommended that you do not begin working on your Portfolio until your candidacy has been approved.

Theme 5 – Science and Technology (GED0015) PLAR

Portfolio Submission Guidelines

Once your candidacy for PLAR has been confirmed, you can begin working on your Portfolio.

There are three essential components of the Portfolio:

1. Cover Letter

Your one-page cover letter must:

    a) begin with a paragraph that states the purpose of the application (i.e., to obtain credit in GED0015: General Education Theme 5 – Science and Technology) and introduces you by explaining what you are doing now and which goal a successful PLAR application will help you achieve.

    b) in your main body paragraph, explain why you feel you qualify for this PLAR theme by summarizing how you have the related learning and prior experience to meet the Science and Technology Theme Objectives on page 2 above. You may also want to provide more detailed answers to the four questions above (in the "Have You Ever?" section).

    c) conclude with a statement verifying that you own all the evidence included in the enclosed Portfolio.

    d) follow the detailed instructions in the "PLAR Portfolio Instructions and Rubric" section starting on the next page.

    e) be written in a narrative form (without bullet points) and proofread for spelling and grammar.

    f) not exceed one 8.5 by 11" page in length.

2. Science and Technology Experience or Accomplishments Summary Report

This key Portfolio component showcases your science and technology experience and shows your ability to distinguish between workplace/life experience (the act of doing something) and the significant learning that results from it. To address Theme 5 Objectives (page 2 above), this section must include a title, introduction, and either:

    a) a photo essay with at least five items showcasing your science and technology experience (e.g., work or proof of interests), each featuring you and/or your work, and accompanied by a written summary of learning derived from it;

OR

    a) evidence of a strong interest in or study of science and technology in the form of five past or present written commentaries, blogs, analytical essays, critical reviews, correspondence (e.g., your part of an email exchange), or links to other media that you have produced, along with a written summary of learning derived from each.

3. Personal Reflection Essays

    a) Write a two-page essay explaining the role and impact that the type of experience you showcase in your Science and Technology Experience or Accomplishments Summary Report generally plays in culture and society; focus on addressing Theme 5 Objectives 6-8 (see page 2 above).

    b) Write a one-page reflection on how science and technology has affected you over time. To focus on addressing Theme 5 Objectives 1 to 5, summarize:

Theme 5 – Science and Technology (GED0015) PLAR

1. how science and technology has influenced your worldview or outlook on life
2. how a commitment to science has affected your ethics and values
3. how technology has influenced your personal and professional development
4. your role in, and contributions to, a culture that arguably runs blindly ahead wherever technology takes it while also clinging desperately to past traditions

The **PLAR Portfolio – Instructions and Rubric** on the following pages provide more detailed instructions.

Note on your submission: once you have completed your Portfolio, submit an electronic copy to the PLAR Office while keeping original documents for possible future use.

Theme 5 – Science and Technology (GED0015) PLAR

PLAR Portfolio – Instructions and Rubric

Assessment of Your Portfolio

The instructions and rubrics below explain the assessment for each of the three parts of your Portfolio:

- Cover Letter
- Arts Experience or Accomplishments Summary Report Cover Letter
- Personal Reflection Essay

To ensure a successful PLAR Portfolio, please follow the description given under the "Excellent" heading for each of the three portfolio components of the rubric. Avoid the mistakes listed under the "Unsatisfactory" level of achievement.

The success of your Portfolio depends on achieving a minimum score as noted at the bottom of each of the three individual component rubrics. By doing so, you will meet or exceed the required **minimum total of 65 out of 130 possible points** for all three parts combined.

1. Cover Letter

Format

Please use the following formatting guidelines for your cover letter.

1. Your street address
2. Date line
3. Recipient address
4. Subject line
5. Recipient salutation
6. Body consisting of three blocked paragraphs
7. Closing goodwill statement
8. Your signature and full printed name
9. All on one 8.5" by 11" page with single-spaced lines, double between items 1-8, and a consistent font.

Excellent	All 9 format components are included in the required order.	5 points
Satisfactory	Some of the 9 format components are absent, presented in the wrong order or incomplete.	3-4 points
Improvable	Many of the 9 format components are absent, presented in the wrong order or incomplete.	1-2 points
Unsatisfactory	No cover letter provided, or none of the 9 format components followed.	0 points

Opening Paragraph

State:

Theme 5 – Science and Technology (GED0015) PLAR

1. the purpose of the application (to obtain credit in GED0015: General Education Theme 5 – Science and Technology);
2. introduce yourself by explaining what you are doing now; and
3. describe what ultimate goal this application will help you achieve.

Excellent	All three of the required points are stated clearly in the given order.	5 points
Satisfactory	Two or three of the three required points are stated clearly, but one or two are unclear, in the wrong order and/or mixed with some irrelevant, redundant or repeated detail.	3-4 points
Improvable	One or two of the three required points are stated clearly, but the others are absent, unclear, in the wrong order and/or mixed with some irrelevant, redundant or repeated detail.	1-2 points
Unsatisfactory	Cover letter omits an opening paragraph, or it covers none of the three required points.	0 points

Main Body Paragraph

Summarizes how you have the applicable learning and prior experience to meet most of the eight Science and Technology Theme Objectives (see page 2 above).

Excellent	Paragraph convincingly, clearly, concisely, and coherently summarizes how your prior learning and experience meet most (7-8) of the Science and Technology Theme Objectives.	9-10 points
Satisfactory	Paragraph summarizes how your prior learning and experience meet some (5-6) of the eight Theme Objectives. There may also be minor problems with the clarity, coherence and concision.	6-8 points
Improvable	Paragraph summarizes how your prior learning and experience meet 2-4 of the Theme Objectives. The paragraph may also be incoherent (e.g., sentences jump around and run off-topic), too short, or too long with off-topic details and a general lack of clarity.	3-5 points
Unsatisfactory	There is no discernable main body paragraph or it barely summarizes how your prior learning and experience meet any of the Theme Objectives. Most of the sentences lack clarity and coherence, and/or are riddled with off-topic details.	0-2 points

Closing Sentences

Clear statement verifying that you are the rightful owner of all materials included in the enclosed portfolio, as well as a goodwill expression of thanks to the assessor for considering your application.

Excellent	Closing sentences clearly and concisely state that you are the rightful owner of all materials included in the enclosed portfolio, as well as thank the assessor for considering your application.	5 points
Satisfactory	Closing sentences state that you are the rightful owner of all materials included in the portfolio and thank the assessor, but there are minor problems with the clarity and conciseness of expression.	3-4 points
Improvable	Closing sentences state that you are the rightful owner of all materials included but don't thank the assessor or vice versa. There may also be problems with the clarity and conciseness of expression.	1-2 points
Unsatisfactory	Closing is either absent, or doesn't clearly and concisely state that you are the rightful owner of all materials included in the enclosed portfolio, nor does it express thanks to the assessor for considering the application.	0 points

Quality of Writing

Letter content is correct in terms of spelling, grammar, punctuation, syntax and mechanics, and is generally professional in style throughout.

Excellent	Well-written, with few or no spelling, grammar, punctuation, syntax, mechanical or stylistic errors.	5 points
Satisfactory	Generally well-written but with some spelling, grammar, punctuation, syntax, mechanical and/or stylistic errors.	3-4 points
Improvable	Several spelling, grammar, punctuation, syntax, mechanical and/or stylistic errors.	1-2 points
Unsatisfactory	Too many errors in spelling, grammar, punctuation, syntax, mechanics (e.g., capitalization) and/or stylistic errors.	0 points

To gain a PLAR credit, the Cover Letter must score a <u>minimum of 15</u> out of 30 points.

Points Total	/ 30

2. Science and Technology Experience or Accomplishments Summary Report

Format

All work is contained in a single document with a descriptive title, introduction, and pages that combine learning summary statements, along with photos or writing samples on each page, with a professional overall appearance, a document title and a consistent use of font type/size and headings throughout.

Excellent	The report is titled descriptively, has an introduction page, followed by pages that combine titled learning summary statements and photos or writing samples. The report appears professional, with a consistently-applied font type and size, heading styles and spacing throughout.	5 points
Satisfactory	The report has a title that is not descriptive, the introduction is not on a page of its own, and/or the report has some minor inconsistencies in the font type and size, heading styles, spacing, and/or organization of learning summary statements and photos or writing samples.	3-4 points
Improvable	The report's title is misleading or absent, the introduction is not on a page of its own, the report has many inconsistencies in the font type and size, heading styles and spacing, and lacks organization in its presentation of learning summary statements combined with photos or writing samples.	1-2 points
Unsatisfactory	The report lacks a title, has many inconsistencies in the font type and size, heading styles and spacing, and lacks organization in its learning summary statements combination with photos or writing samples.	0 points

Introduction

A brief (at least a paragraph but no more than one page) introduction that explains the purpose of the Science and Technology or Accomplishments Summary Report and the occasion for its being written, and gives a brief overview of its contents.

Excellent	The report has an introductory page with a clear title ("Introduction") and at least one paragraph that clearly and concisely explains the purpose of the Report and the occasion for its being written, and gives a brief overview of its contents.	5 points
Satisfactory	The report's Introduction is not appropriately titled and does not clearly and concisely explain either the purpose of the Report, the occasion for its being written, or its contents.	3-4 points
Improvable	The report's Introduction is not titled, is not on a page of its own, and/or does not clearly and concisely explain the purpose of the Report, the occasion for its being written and its contents.	1-2 points

Unsatisfactory	The report omits an Introduction, or includes one that meets none of the requirements.	0 points

Learning Summary Statements

A title and introductory paragraph summary above each photo or writing sample explains the context and learning that resulted from science and technology experiences or accomplishments, with learning that relates to the Theme Objectives stated on page 2 above.

Excellent	Above each of the 5 photos or writing samples is a title and 1-2 paragraph summary explaining the context (time, place, people involved, occasion, importance, etc.) and learning that resulted from the Science and Technology experiences or accomplishments, and the learning described relates to at least 7-8 of the Theme Objectives.	16-20 points
Satisfactory	The summary paragraphs introducing each photo or writing sample are titled and good but there are only 3-4 of them, or there are 5 of them but they lack clarity and focus when describing the context and learning that resulted, and they relate to only 5-6 of the Theme Objectives.	11-15 points
Improvable	The summary paragraphs introducing each photo or writing sample are good but are untitled, there are only 1-2 of them, or there are more but they don't clearly describe the context and learning that resulted, they do only one of these, and/or they relate to 3-4 of the Theme Objectives.	6-10 points
Unsatisfactory	There are no summary paragraphs introducing each photo or writing sample, or they are untitled and so thin that they describe neither the context nor the learning that resulted, nor do they relate in any way to the Theme Objectives.	0-5 points

Photo Essay or Writing Samples

A photo essay chronicling your science and technology experience (e.g., work or proof of interests), each featuring you and/or your work (one photo per page); OR

Writing samples showcasing your strong interest in or study of science and technology in the form of five past or present written commentaries, blogs, analytical essays, critical reviews, correspondence or links to other media that you have produced.

Excellent	A photo essay with 5 photos chronicling your science and technology experience (e.g., work or proof of interests), each featuring you and/or your work (one photo per page); OR At least 5 writing samples showcasing your strong interest in or study of science and technology (e.g., past or present analytical essays, critical reviews, commentaries, blog postings or links to other media).	20-25 points
Satisfactory	You may only have 3-4 photo essay photos chronicling your science and technology experience (e.g., work or proof of	13-19 points

	interests), or you have 4-5 but they don't all feature you and/or your work. You may only have 3-4 writing samples or you have five but they don't all convincingly demonstrate a strong interest in the study of science and technology.	
Improvable	You may only have 1-2 photo essay photos chronicling your science and technology experience, or you have 3-4 but they don't all feature you or clearly illustrate what you describe in your accompanying Learning Summary Statements. You may only have 1-2 writing samples or you have 3-4 but they don't all convincingly demonstrate a strong interest in science and technology.	6-12 points
Unsatisfactory	There is no representative selection of evidence of experience, accomplishment, or interest in science and technology; or evidence is minimal and presented in a manner that defies evaluation and thus the Theme Objectives.	0-5 points

Quality of Writing

The Summary Report is correct in terms of spelling, grammar, punctuation, syntax and mechanics, and is generally professional in style throughout.

Excellent	Well-written, with few or no spelling, grammar, punctuation, syntax, mechanical or stylistic errors.	5 points
Satisfactory	Generally well-written but with some spelling, grammar, punctuation, syntax, mechanical and/or stylistic errors.	3-4 points
Improvable	Several spelling, grammar, punctuation, syntax, mechanical and/or stylistic errors.	1-2 points
Unsatisfactory	Too many errors in spelling, grammar, punctuation, syntax, mechanics (e.g., capitalization) and/or stylistic errors.	0 points

To gain a PLAR credit, the Summary Report must score a <u>minimum of 30</u> out of 60 points.

Points Total	/ 60

3. Personal Reflection Essays

Format

The essays fill three single-spaced pages, have a descriptive title and a subheading for each of the two sections named below.

Excellent	The essays fill three single-spaced pages with the title given above and a subheading for each of the two sections named below; the font type and size, heading styles and spacing are consistent throughout.	5 points
Satisfactory	The essays deviate slightly from the format requirement (for example, the title is not the same as that given above), or has minor inconsistencies in the font type and size, heading styles or spacing.	3-4 points
Improvable	The essays are not single-spaced and are inconsistent in font type and size, heading styles and spacing.	1-2 points
Unsatisfactory	One or more of the essays is absent or disorganized, with too many format errors, such as no title or section headings, multiple line spacing or inconsistencies in font type or size, heading styles or character spacing.	0 points

Section A: Cultural Role and Impact

A two-page original essay on (1) the role that the type of science and technology experience you showcase in your Science and Technology Experience or Accomplishments Summary Report generally plays in culture at large, and (2) its impact on society historically and today, addressing Theme 5 Objectives 6-8.

Excellent	The Personal Reflection Essays document begins with a full, two-page original essay with the subheading "The Role and Impact of [Your Chosen Type of Science and Technology Experience—e.g., repairing computers] in Culture" and explanation of (1) the role that the type of science and technology experience you showcase plays in culture at large and (2) its impact on culture historically and today; the essay addresses Theme 5 Objectives 6-8 (page 2 above).	16-20 points
Satisfactory	The Cultural Role and Impact essay is closer to 1.5 pages in length, may not identify your chosen type of science and technology experience in the subheading, covers topic (2) in more depth than (2) or vice versa, covers contemporary but not historical aspects for topics (1) or (2) or vice versa, runs slightly off-topic, and/or addresses only 2 of Theme 5 Objectives 6-8 given on page 2 above.	11-15 points
Improvable	The Cultural Role and Impact essay is slightly more or less than a page in length, discusses culture in general rather than the specific type of experience you focus on in your Science and Technology Summary Report, fails to follow the required subheading name, covers topic (1) but not (or	6-10 points

	barely) topic (2) or vice versa, fails to clearly address historical or contemporary aspects for either topic, runs off-topic, and/or addresses only 1-2 of Theme 5 Objectives 6-8 given on page 2 above.	
Unsatisfactory	The Personal Reflection Essays document omits the Cultural Role and Impact essay or it is less than a page in length, vaguely discusses experience in general rather than the type you focus on in your Science and Technology Summary Report, omits a subheading, vaguely addresses only topic (1) or (2), fails to discuss the historical and contemporary aspects of either, largely ignores Theme 5 Objectives, runs off topic, and/or is plagiarized in whole or in part.	0-5 points

Section B: Personal Meaning

A one-page personal reflection on how your science and technology experience has affected you over time, addressing Theme 5 Objectives 1-5 by summarizing (1) how science and technology have influenced your worldview, (2) how your commitment to science has affected your ethics and values, (3) how technology has influenced your personal/professional development, and (4) your role in a culture that both embraces technology and yearns for the past.

Excellent	The Personal Meaning essay fills one full page with a reflection on how science and technology have affected you over time, addressing 4-5 of Theme 5 Objectives 1-5 by summarizing (1) how science and technology have influenced your worldview, (2) how science has affected your ethics and values, (3) how technology has influenced your personal/professional development, and (4) your role in a culture that both embraces technology and yearns for the past.	9-10 points
Satisfactory	The Personal Meaning essay fills less than a page with a reflection on how your science and technology experience has impacted your life and addresses 3-4 of Theme 5 Objectives 1-5 by clearly and coherently summarizing three of the four topics suggested in the guidelines on pages 4-5 above, though the fourth topic and a couple of the Theme Objectives may be unclear or crowded by off-topic digressions.	6-8 points
Improvable	The Personal Meaning essay fills around half a page with a reflection on how your science and technology experience has impacted your life and addresses 1-2 of Theme 5 Objectives 1-5 by clearly and coherently summarizing at least half of the four topics suggested in the guidelines on pages 4-5 above, though some of the topics and the Theme Objectives may be unclear or crowded out by off-topic digressions.	3-5 points

Theme 5 – Science and Technology (GED0015) PLAR

Unsatisfactory	The Personal Reflection Essays document omits the Personal Meaning reflection on how your science and technology experience has impacted your life or it falls short of half a page in length, barely addresses any of the Theme Objectives 1-5 or the four topics suggested in the guidelines on pages 4-5 above, adds off-topic digressions that may even bring the essay to the required length or more, and/or is plagiarized in whole or in part.	0-2 points

Quality of Writing

The Personal Reflection Essays are correct in terms of spelling, grammar, punctuation, syntax and mechanics, and are generally professional in style throughout.

Excellent	Well-written, with few or no spelling, grammar, punctuation, syntax, mechanical or stylistic errors.	5 points
Satisfactory	Generally well-written but with some spelling, grammar, punctuation, syntax, mechanical and/or stylistic errors.	3-4 points
Improvable	Several spelling, grammar, punctuation, syntax, mechanical and/or stylistic errors.	1-2 points
Unsatisfactory	Too many errors in spelling, grammar, punctuation, syntax, mechanics (e.g., capitalization) and/or stylistic errors.	0 points

To gain a PLAR credit, the Personal Reflection Essays must score a <u>minimum of 20</u> out of 40 points.

Points Total	/ 40

To gain a PLAR credit, your complete PLAR Portfolio must score a <u>minimum of 65</u> out of 130 points.

Portfolio Points Total	/ 130

215