OACETT

TECHNOLOGY REPORT PROPOSAL AND REPORT GUIDELINES

Revised: November 2025

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INTRODUCTION

The Technology Report (TR) is a certification requirement by the Registration and Professional Practice (RPP) group to achieve the Certified Engineering Technologist (C.E.T.) designation.

The purpose of the Technology Report is to demonstrate the member's technical problem-solving abilities, specifically their abilities to:

- Identify and define a technical problem;
- Describe the problem accurately and in detail;
- Logically apply a technical methodology to attempt to solve the problem;
- Describe the results through technology fundamentals, designs, data analysis and other appropriate techniques;
- Draw conclusions about the results; and
- Make recommendations if applicable – while recommendations are not required, they are suggested as a way to demonstrate additional critical thinking about the problem and solution.

The Technology Report must demonstrate a level of engineering technology or applied science knowledge and application equal to that required of an Engineering Technologist. **Members who are missing technologist-level academics must complete any outstanding requirements first.** The Technology Report does not need to have original concepts. However, the member must demonstrate the application of current concepts to a unique context or situation. The member must also demonstrate the ability to present information and ideas in an integrated, cohesive document.

- Outstanding Academics for C.E.T. = NO – Cannot Submit TRP/TR
- Outstanding Experience for C.E.T. = YES – Can Submit TRP/TR

TECHNOLOGY REPORT PREPARATION & SUBMISSION PROCESS

Two-Step Process

Successful completion of the Technology Report involves two separate steps which must be followed in order.

The submission of the Technology Report Proposal and Technology Report is one of the final steps in the certification process. **You may only complete this requirement after your file has been reviewed by the Admissions Committee** AND your technologist-level academics are complete.

1. Submit a Technology Report Proposal (TRP):
    - I. Complete the TRP and upload to the OACETT portal.
    - II. To upload the TRP, choose My Membership/Certification Details, click on the application and select Technology Reports on the left. Alternatively, a PDF document attachment can be submitted via e-mail to certify@oacett.org.
    - III. The TRP must be received and approved before proceeding to the second step.
    - IV. Guidelines for the TRP are provided below on page 9.
    - V. If you plan to submit a report that you have previously completed — either during your studies or at your workplace — it must have been completed **within the last five years**.
    - VI. The TRP must include a detailed breakdown of authorship as outlined in Declaration of Authorship on page 6.
2. Once the TRP is approved, members can submit the Technology Report (TR):
    - I. Complete the Technology Report and upload to the OACETT portal.
    - II. To upload the TR, choose My Membership/Certification Details, click on the application and selecting Technology Reports on the left. Alternatively, a PDF document attachment can be submitted via e-mail to certify@oacett.org.

TOPIC SELECTION

The topic of the Technology Report should be within the discipline of OACETT membership.

A topic not within the discipline of OACETT membership, but in another engineering technology or applied science discipline, may be considered if the member's experience has migrated into this new discipline. This must be clearly requested in the TRP. The topic must be at the same level expected from someone trained in that discipline.

To request a discipline change in the TRP, members should:

I. Identify their discipline on the cover page;
II. Identify the requested discipline on the cover page; and
III. Explain in the introduction why they are requesting a discipline change.

DECLARATION OF AUTHORSHIP

Sole Authorship

The Technology Report must be the member's own work and a signed declaration confirming that this is the case must be included as a separate page.

If the member has a college report prepared as part of a group project, refer to Group Authorship below.

Both the Technology Report Proposal and Technology Report must include a declaration of authorship.

A **signed** Declaration of Sole Authorship stating the Technology Report is the member's own work should be worded as follows:

> I, _____, confirm that this work submitted for assessment is my own and is expressed in my own words. Any uses made within it of the works of any other author, in any form (ideas, equations, figures, texts, tables, programs), are properly acknowledged at the point of use. A list of the references used is included.
>
> I hereby confirm that the report was completed within the last 5 years.

All sources of information must be acknowledged in the Technology Report. Plagiarism is unethical and unacceptable. A member suspected of plagiarizing may be referred to the Complaints Committee.

Group Authorship

A Technology Report prepared as a group activity will not normally be considered; however, a recent, **less than five years old, undergraduate final-year report** prepared as a requirement of an engineering technology or applied science program of studies, may be considered. In this case, at the proposal stage the member must clearly indicate:

I. Which parts of the overall Technology Report they completed and which were completed by other members of the group using a percentage breakdown of each and number of pages and how that relates to the number of pages in the report; and

EXAMPLE

- Total Report length is 20 pages.
- Methodology section is 5 pages –
    - Student A wrote 25%
    - Student B wrote 25%
    - Submitting Member wrote 50% = 2.5 pages for the member submitting the TR.
- Recommendations section is 4 pages –
    - Student A wrote 50%
    - Submitting Member wrote 50% = 2 pages for the member submitting the TR.
- Etc.

II. The **college and program name** for which the report was completed and the date of submission to the college.

Heading	Student A	Student B	Member
Methodology (5 pg)	25%; 1.25 pg	25%; 1.25 pg	50%; 2.5 pg
Recommendations (4 pg)	50%; 2 pg	n/a	50%; 2 pg
Etc.			
TOTAL			
College	e.g. Mohawk	Program	e.g. Civil

A **signed** Declaration of Group Authorship with this breakdown (% and number of pages) must be included as a separate page in both the proposal and the report instead of the Declaration of Sole Authorship, worded as follows:

> I,_____, confirm that this breakdown of authorship represents my contribution to the work submitted for assessment, and my contribution is my own work and is expressed in my own words. Any uses made within the Technology Report of the works of any other author, separate to the work group, in any form (ideas, equations, figures, texts, tables, programs), are properly acknowledged at the point of use. A list of the references used is included.
>
> I hereby confirm that the report was completed within the last 5 years.

All sources of information must be acknowledged in the Technology Report. Plagiarism is unethical and unacceptable. A member suspected of plagiarizing may be referred to the Complaints Committee.

THE TECHNOLOGY REPORT PROPOSAL

The Technology Report Proposal informs the RPP Admissions Committee of the member's intent to submit a Technology Report. It gives the Committee an opportunity to determine whether the proposed topic, problem and methodology will potentially result in an acceptable Technology Report. The member must receive approval on the Technology Report Proposal before proceeding to the Technology Report.

The Technology Report Proposal should be approximately 500 words in length. The Technology Report Proposal should contain:

1. A Title Page with the following information:
    - **Title:** The title should be 10 words or less in length but should be specific and detailed. It should use standard terminology so that it is clear what the report is about.
    - **From:** The member's name, membership number and address.
    - **Discipline:** The discipline in which the member is seeking certification.
    - **Date:** The date of submission of the proposal.
2. Declaration of Authorship.
3. An **Introduction** that includes a short background statement of what the proposal covers and why this particular topic and problem are being tackled. The introduction should be approximately 100 words long.
4. A Body **with headings** that include a statement of the problem which the Technology Report will attempt to address, the methodology with which this will be done and a hypothesis.
    - The **Problem Statement** should:
        - provide sufficient detail using specific engineering technology or applied science concepts, techniques, or processes to identify the issue to be addressed;
        - be an actual problem, not summary or overview -- proposals that

are summaries of an industry or situation that do not try to solve a problem will not be approved; and

- be about 50 words long.

- The **Methodology** should:
  - describe the approach the member will use to solve the problem; and
  - be about 300 words long.
- The **Hypothesis** should:
  - state what the member thinks the solution to the problem is expected to be and why;
  - be strong and clear and not contain any words of uncertainty such as “maybe”, “probably”, or “might”; and
  - be about 50 words long.

TRP section	Word Length (approx.)
Title	Up to 10
Introduction	100
Problem Statement	50
Methodology	300
Hypothesis	50

The TR Proposal will be evaluated using the following criteria:

TRP.01 If the report has been identified as being previously completed by the member for school or employment, is it less than 5 years old?

TRP.02 Does it appear that the report will be in an area which will be acceptable for this candidate?

TRP.03 Is the report within the member’s discipline? If not, will it be acceptable because of experience and knowledge?

TRP.04 Does the introduction provide a statement of what the proposal covers, giving a short background explanation of why this report is being

prepared (other than to meet OACETT's Technology Report requirement)?

TRP.05 Does the problem statement provide sufficient detail using specific engineering technology or applied science concepts, techniques, or processes to identify the issues to be addressed? The problem statement should be an actual problem, not a summary or overview

TRP.06 Does the methodology of the proposal describe the approach that will be used to solve the problem?

TRP.07 Is there are an acceptable hypothesis statement that describes what the solution to the problem is expected to be and why?

The results of the Technology Report Proposal evaluation will be communicated via email 8 weeks after submission to OACETT.

THE TECHNOLOGY REPORT

Once the Technology Report Proposal has been approved, members can start work on the Technology Report.

The Technology Report must be submitted within one year of the approval of the Technology Report Proposal.

The Technology Report will be evaluated in two areas:

1. Report structure and mechanics, and
2. Technology content quality.

Each area must be acceptable for a member to achieve a final grade of “Satisfactory” on the Technology Report.

TECHNOLOGY REPORT STRUCTURE AND MECHANICS

The Technology Report must communicate information in a standard, comprehensible way following acceptable structure, style, formatting and language choices.

The following components should be included in the Technology Report:

1. Title Page including:
    - title,
    - member's name,
    - current OACETT designation (if any),
    - membership number, and
    - date of submission.
2. Declaration of Authorship (see page 6 for details) **AND** copy of the approved technology report proposal.
3. Copy of the approval email from OACETT.
4. Abstract (or Executive Summary, not both) which is a brief summary (approximately 75 to 100 words) of the report's introduction, problem statement, methodology, hypothesis, results, conclusion(s), and if applicable, recommendation(s).
5. Table of Contents
6. List of Illustrations
7. Introduction which answers the following questions:
    - What is the industry or organization or context?
    - What is the problem or issue?

- What is the scope of the report and what procedures are used? What is included and/or omitted?
- Why was the work described in the Technology Report undertaken?

8. Methodology which outlines the steps taken to solve the problem.

9. Results/Data/Analysis:

    - Analyze the results, findings or data generated through the methodology; and
    - Include diagrams, charts, tables and other visual information as appropriate.

10. Conclusion(s):

    - Interpret(s) the data found in the results section;.
    - Are reasoned judgment and fact, not opinion;
    - Consider all of the variables and relate cause and effect; and
    - Analyze, evaluate, and make comparisons and contrasts.

11. Recommendation(s) (if applicable) suggest a course of action and are provided when there are additional areas for study, or if the reason for the Technology Report was to determine the best action going forward.

12. Bibliography (technical references).

13. Appendices can include detailed calculations, tables, drawings, specifications, and technical literature.

In addition to a standard structure, each Technology Report should follow acceptable style and language usage including:

1. The document should be typed, double-spaced using Arial, Univers, or a similar Sans Serif 12-point font.

2. The lines should be justified left, with pages numbered and appropriate page breaks.

3. The report body should have section headings.

4. Correct spelling, punctuation, and grammar should be used.
5. Consistent voice, subject-verb agreement, and verb tenses should be used.
6. Jargon should be avoided if possible.
7. Acronyms should be explained.
8. References, footnotes, quotations, and paraphrasing should be used correctly.
9. The body of the Technology Report, from the Introduction to the Recommendation(s), must contain at least 3000 words, not including the Abstract, Bibliography (References) and Appendices.

THE TECHNOLOGY REPORT CONTENT QUALITY

The Technology Report should be a logical, methodical investigation into an engineering technology or applied science problem.

Members should provide details of what was done in the study, including what materials, equipment and procedures were used and why they were selected over other alternatives.

If relevant, members should provide drawings, photographs and diagrams to support their work visually. Calculations should also be included if relevant. Additional calculations and references can be included in the Appendices rather than the body of the report.

When writing the report, members should assume their readers are from the same engineering technology or applied science discipline but may not necessarily be from the same specific area within that discipline. Background information should be provided and acronyms spelled out.

Members should keep the following criteria in mind as they write their Technology Report:

- The methodology should be scientifically sound and the engineering technology principles should be appropriate to the subject area.
- The data and results should be accurate and complete. They should follow sound scientific and engineering technology principles.
- Results should lead to meaningful conclusions from the data whether they were determined from experiments, theories or secondary sources.
- The mathematical formulae should be applied appropriately
- The illustrations/diagrams/charts should be technically correct.
- The analysis should be complete.

- Members should summarize the results and illustrate the most significant ones.
- The Conclusion(s), and if applicable the Recommendation(s), should be logical and relate to and reflect the Problem Statement.

THE TECHNOLOGY REPORT SUBJECT

A Technology Report should relate to the discipline in which certification was awarded.

It should describe an engineering technology or applied science problem and how it was solved.

The Technology Report title should clearly indicate what problem is being solved in the report.

Examples of technical problems that might be solved in a Technology Report include:

- design, redesign or restoration;
- testing and analysis; selection,
- development or improvement of a product, process or piece of equipment;
- improvement of efficiency or cost-effectiveness;
- meeting a specific set of standards; and
- investigation or assessment of a site.

There is a list of sample titles from actual Technology Reports at the end of this document.

THE TECHNOLOGY REPORT EVALUATION

Technology Reports are evaluated using three checklists:

- The Prescreening Checklist,
- the Report Mechanics and Structure Checklist, and
- the Report Content Checklist.

In order to achieve a "Satisfactory" result on the Technology Report, members must achieve 100% on the Prescreening Checklist, 60% on the Report Mechanics and Structure Checklist, and 60% on the Report Content Checklist.

1. **Prescreening Checklist**

PS. 01 Has a Proposal for a Technology Report been submitted, and a copy of the approved proposal and acceptance email included in the Technology Report? Is the Technology Report consistent with the Proposal (as approved and with the comments and suggestions made by the proposal reviewer)?

PS. 02 Has the Technology Report been submitted within one year since the proposal was approved?

PS. 03 Is the Technology Report typed, double-spaced and justified left?

PS. 04 Has a 12 point Arial, Univers, or similar Sans Serif font been used?

PS. 05 Is the body of the report a minimum of 3,000 words?

PS. 06 Are the components included and in the following order: Title Page; Declaration of Authorship; Approved Proposal and Acceptance Email; Abstract/Executive Summary; Table of Contents; Lists of Illustrations/Diagrams; Body of the TR; Conclusion(s), and if applicable, Recommendation(s); Bibliography/Technical References; and Appendices?

PS. 07 Is there a signed Declaration of Authorship?

PS. 08 Is the report dated?

PS. 09 If the report has been identified as being previously completed by the member for school or employment, is it less than 5 years old?

PS. 10 Is there a Title Page?

PS. 11 Is there a Table of Contents?

PS. 12 Does the Table of Contents correctly reflect the Components: Headings, Illustrations/Diagrams and Appendices?

PS. 13 Are the pages numbered with appropriate page breaks?

PS. 14 Is there an Abstract/Executive Summary and Introduction?

PS. 15 Does the report body have section headings?

PS.16 Are there Conclusion(s), and if applicable, Recommendation(s)?

PS. 17 Is there a Bibliography with appropriately cited Technical References?

2. Report Mechanics and Structure Checklist

This section evaluates the structure, formatting and writing techniques used in the TR. Fulfillment of these criteria leads to a TR that looks professional, is easy to read and is representative of the formatting standards of the industry.

A.01 Does the Title, in ten words or less, inform readers of the precise subject matter contained in the TR? A title should be concise and include key words for indexing.

A.02 Does the Abstract/Executive Summary/Introduction provide a brief overview of the problem in approximately 75 to 150 words?

A.03 Does the Abstract/Executive Summary/Introduction state the reason the work was undertaken? What is the industry, organization or context? What is the problem?

A.04 Does the Abstract/Executive Summary/Introduction state the hypothesis, methodology and scope of the study?

A.05 Does the Abstract/Executive Summary/Introduction summarize the Conclusion(s), and if applicable, the Recommendation(s)?

A.06 Do the headings and subheadings in the Body adequately and accurately describe the section or subsection content?

A.07 Does the Body include information regarding the methodology? Does it indicate materials, equipment and procedures used and why they were selected over alternatives? Is there sufficient detail so that that the methodology can be duplicated by others?

A.08 Does the body include recent research findings (less than 5 years old). If the findings are older, is there adequate explanation as to why they are not using newer information?

A.09 Does the Body include results/data from the study?

A.10 Are illustrations, tables, diagrams and charts clearly drawn, labelled and numbered?

A.11 Is each Conclusion, and if applicable, each Recommendation, stated in a separate paragraph and in a positive way? Conclusions should not be qualified with “it seems”, “probably”, “it may be”, or other words that dilute the strength of the conclusion.

A.12 Are the References/Bibliography complete? All materials referenced in the TR should be represented in the list of References/Bibliography.

A.13 Do the Appendices support the study? Do the Appendices include substantiating data and calculations? Extraneous material should not be included.

A.14 Is the spelling correct? Has either the Canadian or USA spelling system been used consistently through the TR?

A.15 Is the language free of jargon? Are acronyms properly introduced? Are abbreviations appropriate and correct? Can someone without specific expertise in the field read and understand the TR?

A.16 Is the same voice (I, one, person, they, etc.) used consistently throughout the Technology Report? There should not be any switching from third person to first person or vice versa.

A.17 Do the grammar and punctuation follow normally accepted rules of use? Use Ron Blicq’s text Technically Write or a similar grammar reference as a guide.

A.18 Are thoughts and illustrations/diagrams/charts that do not belong to the writer properly identified and footnoted in the text? Are quotations indicated correctly? Are the authors referenced in footnotes and/or reference list? Do they include the author’s name, the title of the article/book, the date of publication, and the publisher?

3. Report Content Checklist

This section evaluates the quality of the work completed when addressing the problem statement/hypothesis. Fulfillment of these criteria leads to a TR that makes a contribution to the field under study.

B.01 Are the Problem Statement and Hypothesis significant to the current state of the field/industry?

B.02 Is the Methodology scientifically sound? Have good methodology choices been made? Has the methodology been followed correctly? Are the results/data generated reliable as a result of the methodology?

B.03 Are the engineering technology and applied science principles used in the Methodology and Analysis appropriate to the subject area?

B.04 Are the Data and/or Results complete? Has the author discussed all the significant findings generated by the study?

B.05 Have the required mathematical formulae been applied appropriately?

B.06 Are the mathematical calculations done correctly and accurately?

B.07 Are the Illustrations/Diagrams/Charts technically correct?

B.08 Is the Analysis of the results correct? Does the author avoid false analogies? Does the author base their interpretations on fact? Does the author avoid unsubstantiated opinion?

B.09 Is the Analysis complete? Does the author take into account all variables in the Analysis of the results/data? Does the author compare and contrast where appropriate? Does the author relate cause and effect where appropriate?

B.10 Are the Conclusion(s), and if applicable the Recommendation(s), free of discussion, explanation and opinion? Conclusions should be reasoned judgements based on the collected facts and results.

B.11 Do the Conclusion(s), and if applicable the Recommendation(s), relate to and resolve the Problem Statement and/or Hypothesis?

B.12 Are the Conclusion(s), and if applicable the Recommendation(s), logical? Do the Results and Analysis support the Conclusions/ Recommendations?

B.13 Does the report make a contribution to the industry/field of study?

The results of the Technology Report evaluation will be communicated via email 12 to 14 weeks after submission to OACETT.

If the member receives the required scores for each section, the Technology Report will receive a grade of “Satisfactory”.

If the member does not receive the required scores for each section, the Technology Report will receive a grade of "Unsatisfactory".

If the grade is “Unsatisfactory”, the Reviewer will provide comments to assist with rewriting the Technology Report. An “Unsatisfactory” Technology Report may be resubmitted only once and only after appropriate revisions have been made.

This resubmission must be done within three (3) months of the notification date of the results.

If, after revisions, the Technology Report still does not meet the OACETT standard, a new topic must be chosen and a new Proposal for a Technology Report submitted.

OWNERSHIP AND CONFIDENTIALITY OF THE TECHNOLOGY REPORT

Technology Reports will remain the property of OACETT and may be used as samples to assist other members in the preparation of their Technology Reports.

An OACETT member may wish to submit a Technology Report prepared on behalf of an employer or a client which is proprietary to that employer or client. Special arrangements can be made with the Registrar for confidential or proprietary Technology Reports, provided a written request is made in advance,

OACETT will issue a standard, signed, confidentiality agreement for such requests. The Technology Report will not become the property of OACETT, and all copies will then be returned to the OACETT member upon completion of the evaluation.

Members must obtain their employer's or client's written permission prior to submitting the Technology Report to OACETT.

SAMPLE TECHNOLOGY REPORT TITLES

Bioscience

- Optimization of Coagulant Dose for Aluminum Residual and UV Transmittance in Ultrafiltered Water
- Estimation of Vegetation Cover Area and its Diversity using Sentinel-2 Satellite Images
- Maintenance and Validation for Autoclave in the Healthcare and Industrial Environment
- Cell Quantification using Micro Engineering Technology

Building/Architectural

- Standardized Shear Testing of Structural Panels with Blocking
- Restoration of Concrete Structures Damaged by Corrosion of Reinforcing Steel
- Cost and Schedule Control for Daycare Renovations Where Asbestos Identified
- Rehabilitation of the Brick Masonry at a Recreation Centre

Chemical

- Effects of Filler Concentration and Shear Rate on Filled Polymer Compound Viscosity
- Determining Heavy Water Properties in Nuclear Reactor Computer Blowdown Code
- Analysis and Sizing of Pressure Relief Devices
- Analysis of the Secondary Disinfection of Municipal Drinking Water by Chloramination

Civil

- Traffic Calming: An Evaluation of Tools and Policies for Ontario
- The Design and Analysis of a Retaining Wall on an Irregular Slope
- Analyzing In-Situ Thermal Remediation for Removing Soil Contaminants in Canada
- Brick Deterioration Case Study
- Using Drones for Efficient and Accurate Construction Site Monitoring

Computer

- Cybersecurity Internal Threat Assessment
- Novel Approach for Load Forecasting using the Concepts of Artificial Intelligence
- An Angle-Based Unified Similarity Metric to Extract Key-Frames from News Videos

Electrical

- Transformer Oil Leak Containment System with Real-Time Monitoring
- EV Testbed & Effects of Total Harmonic Distortion on EV Charging
- Power Transformer Monitoring Control Panel Design & SCADA Connectivity
- Determining Cause and Corrective Action of Community Centre's Main Breaker Tripping
- Converting an Old Residential Property to a Green Energy Efficient House

Electronics

- Developing Three Position Elevator Model with Soft Start and Soft Stop
- Implementing Subcarrier Multiplexing on Fiber Optic Networks
- Mild hypothermia unit for trauma care
- Design, Develop and Evaluate Electrocardiogram Monitoring Measuring Techniques

Environmental

- An Environmental Health Assessment of Grenadier Pond Laboratory
- Quantifying Stormwater Pollutant Reduction Benefits of Public Works Maintenance Practices
- Hydraulic Assessment for a Proposed Gravel Pit in Central Ontario
- Record of Site Condition: Identifying Groundwater and Soil Impacts for Residential Development

Geological

- Maximizing Limestone Quarry Reserves for Cement Manufacture in Bowmanville, Ontario

Geomatics

- Electrical Distribution Asset Condition Analysis (ACA)

Instrumentation

- Upgrading the PLC in an Active Sewage Pumping Station
- Upgrading the Communication Signal to a Cogeneration Plant
- Controls & Monitoring Networks in Water & Wastewater
- SCADA System Analysis – Comprehensive Report & Upgrade Recommendations

Mechanical

- How to Manufacture More Effectively Using Laser Technology
- Improving Indoor Air Quality in a Residential Application
- Converting a multiunit dwelling to net-zero energy
- Welding Procedure Development for Weldneck Fabrications
- Titanium Alloys: Machining Evaluation and Usage for Hip Replacements

Mining

- Mining Precious Metals Recovery from Wastewater Through Biosorption
- Shaft Mining Personnel Carrier: Assessing Risks & Reducing with Technology
- Closed Loop Motor Control System for Mineshafts

THE TECHNOLOGY REPORT WRITING SEMINAR - OPTIONAL

OACETT offers a Technology Report Writing Seminar to assist members in preparing for and completing their Technology Report. The seminar is offered in a variety of virtual delivery options throughout the year. For information on the Technology Report Writing Seminar and how to register, please see the OACETT website under How to Certify.

RESOURCES

The following references may be useful in the preparation of a Technology Report:

Blicq, R. S. and Moretto, Lisa. (2011). *Technically Write, Eighth Canadian Edition*. Toronto: Pearson Canada ISBN-13: 978-0132158855.

Rubens, P. (2000). *Science and Technical Writing: A Manual of Style, 2nd Edition*. New York: Routledge ISBN-13: 978-0415925518