



CANASTEMM GUIDELINES FOR STUDENT RESEARCH

FOCUS:

Dr. Annette M. and Dr. Richard L. Burden, professors in the department of Mathematics and Statistics at Youngstown State University, created the Center for Applied Numerical Analysis in Science, Technology, Engineering, Mathematics, and Medicine (CANASTEMM) as an endowment to Youngstown State University. CANASTEMM was established as an interdisciplinary mechanism to support and encourage the applied numerical analysis research of students and faculty in the STEM disciplines at Youngstown State University. The Burden's created the CANASTEMM CHALLENGE to provide undergraduate and graduate students an opportunity to showcase their research projects to the university community and to reward the two top students with a small financial stipend.

The theme of this challenge is the use of Applied Numerical Analysis in the STEM disciplines.

There are 4 subthemes:

1. **Innovation and Creativity** – studies and practices on how applied numerical analysis can be used in the STEM disciplines to solve real world problems.
2. **Design and Development** – empirical studies, modeling, and simulations involving applied numerical analysis in the STEM disciplines.
3. **Interdisciplinary Collaboration** – studies and practices that involve applied numerical analysis in the collaboration across various STEM disciplines.
4. **Computational Error** – studies on how to measure or control the error involved in applied numerical analysis approximations.

REGISTRATION:

Students who wish to participate in the CANASTEMM CHALLENGE must first identify a faculty supervisor who is willing to support their research. The student must then complete the project registration form found on the [CANASTEMM](#) website by February 12, 2016.

PAPER SUBMISSION GUIDELINES:

All paper submissions will be handled electronically by sending the paper as an attachment to amburden@ysu.edu with the subject line "Submission for Your Last Name_Your First Initial". For example, John Doe's electronic submission would have in the subject line of the email "Submission for Doe_J". Any submissions that do not follow this format will not be considered.



Research Papers should address the following: problems, objectives/purposes, perspective(s) or theoretical framework, significance of the study, techniques or modes of inquiry, data sources/evidence, results and conclusions. The final paper must be submitted by April 8, 2016. Any paper submitted after that date will not be considered.

IMPORTANT DATES:

- Submission of Project Registration Form: February 12, 2016
- Project Due: April 8, 2016

PUBLICATION:

By submitting your research paper for the CANASTEMM CHALLENGE, students are agreeing to have their submissions posted on the CANASTEMM website. The student author confirms that her/his work is original and that the faculty sponsor served only as a supervisor/mentor in the research project.

Winners will be announced by the Provost and on the CANASTEM website by the end of April, 2016.

FORMAT FOR MANUSCRIPTS:

Papers should be in English, double-spaced in Times New Roman 12 font, and formatted according to APA 6 guidelines (see <https://owl.english.purdue.edu/owl/resource/560/01/>). Papers should be submitted as a PDF file. Papers should be between 3,000 – 6,000 words including references.

The title of the manuscript should be bold, centered, and less than 12 words (font 12). The name of the author, email, and department must be placed on separate lines under the title of the manuscript.

The manuscript should include an abstract not to exceed 250 words clearly indicating the purpose of the research, method, and important findings of the research results.

The manuscript should include a list of at least 3 keywords in a separate heading after the abstract.

The main body of the text should be divided into the following sections:

- Introduction (background study, literature review, objectives)
- Method (sampling used, procedure for collecting data, data analysis)
- Results and Discussion
- Conclusion
- Acknowledgements (optional)
- References



- Appendices (if any)

For ADA compliance, the style of the title, headings, and subheadings must be properly identified. Each section heading must be identified as a Heading 1, subheadings as a Heading 2, and tertiary headings as Heading 3 in your manuscript. All headings must be left justified. The first line of all paragraphs must be indented by 1 inch (standard tab).

Do not provide any space between paragraphs until you go to the next section.

Tables and figures should be numbered serially throughout the paper with Arabic numerals, and each should be placed in the text where reference is made. All tables, table headings, and table footnotes should be centered. Use **10-point Times New Roman** for table descriptions (on top of Table) and figure description (on bottom of Figure). Leave one single line space before and after each table or figure. **No footnotes are allowed on pages.**

Acknowledgments, if any, should be placed at the end of the text before the references. Skip a line after the main body of the text.

References mentioned in the text should be numbered serially throughout the paper with Arabic numerals following the APA 6th Edition.