BME 498 – Computer Simulation of Human Movement

Team Project

**Project Objectives:**

### Work with others in a team to demonstrate leadership skills and management of responsibilities.

* Provide an opportunity to professionally communicate and present research findings to a wide audience

**Problem Statement:** In a team of 2 or more, you are to present a poster at the Celebrate Gannon event in April 2015. Each group will pick a project from the following list:

* Using Lab 1, investigate how the θ waveform differs for various integrator types used (e.g. 4th order Runge-Kutta versus forward-euler). You must compare your findings to the actual, non-numerical solution of the problem.
* Using Lab 1, investigate how the θ waveform differs for various integrator step sizes (e.g. time step of 0.01 seconds versus 0.1 seconds). You must compare your findings to the actual, non-numerical solution of the problem.
* Using Lab 1, investigate how the uncertainty in the moment of inertia affects the θ waveform.

You will present your findings as a poster at the Celebrate Gannon event. This will require you to submit an abstract and create a poster. In addition to submitting these to the event, you will also submit these documents online using Blackboard. No paper copies will be accepted. You must work in teams of 2 or more. Work with a single name on them will not be accepted. Students are expected to follow all formatting guidelines and due dates set forth by the Celebrate Gannon coordinator. Failure to do so will result in a zero for that part of the project.

The tentative dates for this project are as follows:

* **Jan and early Feb:** Applications sent out to students via email from the event coordinator
* **Jan 20:** Groups due to instructor
* **Feb 27:** Abstract due to event coordinator and online via Blackboard
* **Mar 13:** Notification of acceptance for event
* **April 2:** Posters due to event coordinator and online via Blackboard
* **April 14:** Present posters at Celebrate Gannon event, 3:00 – 7:00 pm, Waldron Campus Center and Palumbo Academic Center

The points for each section are as follows:

* Abstract on Blackboard (15pts)
* Abstract submitted to Celebrate Gannon (20pts) – must provide proof of abstract submission on Blackboard
* Poster on Blackboard (25pts)
* Poster submitted to Celebrate Gannon (30pts) – must provide proof of abstract submission on Blackboard
* Poster presented at Celebrate Gannon (10pts)

Useful resources include:

* <http://theprofessorisin.com/2011/07/12/how-tosday-how-to-write-a-paper-abstract/>
* <http://web.clas.ufl.edu/users/wiltshir/abstract.htm>
* <http://www.ncsu.edu/project/posters/>
* <http://www.asbweb.org/conferences/2012/other/preparing_a_scientific_poster.pdf>
* <http://colinpurrington.com/tips/academic/posterdesign>
* <http://www.writing.engr.psu.edu/posters.html>

The following rubrics will be used to grade each part of the project.

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| **Abstract** | **Points Possible** |
| Appropriate title | 2 |
| Intro section stating importance and originality of work | 2 |
| Clearly stated purpose statement in Intro | 2 |
| Methods section summarizing what was done | 2 |
| Results section summarizing findings | 2 |
| Discussion section describing why findings are important and relevant | 2 |
| Within word limits | 2 |
| <2 grammar/spelling errors | 1 |
| **Total** | **15** |

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| **Poster** | **Points Possible** |
| Appropriate title | 2 |
| Intro section stating importance and originality of work | 2 |
| Clearly stated purpose statement in Intro | 2 |
| Methods section summarizing what was done. Should contain some sort of graphic. | 2 |
| Results section summarizing findings. Should contain figures. | 2 |
| Discussion section describing why findings are important and relevant | 2 |
| Appropriate citations | 2 |
| Good poster layout with appropriate headings | 2 |
| Easy to read from a distance | 2 |
| Figures and tables referenced in the text but not as the subject of a sentence. Incorrect: Figure 1 shows that speed increases as radius also increases. Correct: Speed increases as radius also increases (Figure 1). Figures should support ideas you present in the text. | 2 |
| Each figure has a brief caption | 2 |
| Sans serif font | 2 |
| <2 grammar/spelling errors | 1 |
| **Total** | **25** |