

GENERAL STUDIES NEW COURSE PROPOSAL FORM

These sections should be completed by the faculty/staff member proposing the course.

Acronym	Course Level (1XXX 2XXX 3XXX 4XXX 5XXX 6XXX)	Credits
Schedule Type	Lecture (1-5)	Seminar (0-6)
	Tutorial (7)	Independent study (8) Internship (9)
Instructor Name	Program	School
Complete Course Title (80 characters maximum)		
Prerequisite		
If yes, list prerequisite by Acronym & Number		
Course Status:	New	Adapted

NOTE: All Subscript designations and/or W/Q approvals must be submitted through the appropriate Convenor.

Course Description for the Bulletin – must be approximately 45 words

ENMGSD (NVE or GSS):

of the course; in addition
breakdown of the in-class

4. Alignment of Course Goals to Assignments

General Studies Objectives

Modeling Epidemics (GNM 2XXX) { Fall/Spring 20XX

W Designation: W2 { Writing will be the primary means of evaluation for this class

Instructor Information:

Instructor: Philip Eaton, Ph.D. (Just call me Philip) Office: USC2-206 Email: philip.eaton@stockton.edu

Email is the best way to get into contact with me outside of office hours.

Office Hours:

Textbooks/Resources:

Any introductory physics with calculus book will work. Here are two recommendations:

^ Required { A computer

{ You will need this is access some course materials, online office hours, online work spaces, and to perform numerical analysis required for your reports.

^ Recommended {

{

Course Structure:

Reading Assignments: Will be given weekly reading assignments which you will incorporate into your reports for each of the models discussed in the class.

Lecture: These will be very interactive, using group/class discussions, brainstorming sessions, and thinking about open-ended questions brought up by the instructor or classmates. The amount of enthusiasm and activity to give in class will be directly proportional to how much understanding you take away from the class.

Draft Reports: The primary form of evaluation for this class will be written reports. These reports will be worked on by small groups of students (no more than 3 people). Details for what the report requires can be found below.

Peer Review: After submitting a report for review, a group will receive one or two other groups' reports

Class Etiquette:

- ^ You should show up on time for class.
- ^ You should write notes on the lecture. My lectures will be based on materials from many different texts.

Rubric/Requirements for a Draft/Revised Report

Technical Content (60%)

- ^ The report should demonstrate mastery of the content being discussed. For example, properly using technical vocabulary and correct illustrations of model parameters
- ^ Appropriate level of detail throughout the report. There is a fine balance between too little and too much detail. Personally, I would err on the side of too much detail and then remove stuff based on referee comments.

Organization/Formatting (15%)

- ^ A Word document with the formatting already set up is available in the class Blackboard.
- ^ Reports should be two columns single spaced.
- ^ Font: Times New Roman [11pt], Calibri (Body) [11pt], Cambria [10.5pt], or Helvetica [10pt].
- ^ You will need to include a Title, Author list, and the following sections: Introduction, Methodology, Results, Discussion, Limitations, and Conclusions.
 - { **Title:** Title of the article.
 - { **Author list:** First author listed in the primary author. The following authors are the secondary authors.
 - { **Introduction:** Describe the situation you are attempting to model and why it is important to do so. Give all relevant background information to the article here.
 - { **Methodology:** Discuss/explain your model, the parameters, and how you got your numerical solutions/plots. You should explain the model as completely as possible in a conceptual manner, no mathematical development needed. This means you will need to display your mathematical model and explain it, but you do not need to do any math. Include examples of possible values for the parameters to help readers understand what they mean. You should explain what values you will be using for each parameter and where/how you came up with these values (i.e. if you need a transmission rate for HIV, then you can use historical data. You would need to explain this process for each of your variables.). Remember to cite your sources!
 - { **Results:** This section is where you display the results of your analysis. This section will be shorter, but should have plots/charts/tables generated via the method you described in the previous section.
 - { **Discussion:** Here you will explain what the results you present mean and how they can be interpreted. For example, in your model did the disease end up infecting the entire population or only a small percentage? Are there any interesting features to the results that you can help explain? What can you suggest the population do in the event an epidemic like the one you modeled actually happened? How would these suggestions impact your models? This will be one of the longer sections in your report, but it should be the most fun/interesting to write.
 - { **Limitations:** Explain any limitations your model possesses. You do not need to get into specific details here. Just comment on things your model leaves out, or particularly specific assumptions your model makes that may not be totally accurate in the real world. For example, a lot of models will assume perfect mixing of susceptible and infected individuals, but in the real world this may not be a good assumption for some situations. I.e. it may be great for modeling a dormitory that frequently has parties in the common rooms which most everyone attends, but would be less accurate for modeling a dormitory where everyone stays in their rooms and never comes out.
 - { **Conclusions:** Summarize the report with the big picture findings. Briefly explain your model, your

Rubric/Requirements for the Final Project Report

Technical Content (60%)

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- ^ Appropriate level of detail throughout the report. There is a fine balance between too little and too much detail. Personally, I would err on the side of too much detail and then remove stuff based on referee comments.

Organization/Formatting (15%)

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- ^ Reports should be two columns single spaced. Font: Times New Roman [11pt], Calibri (Body) [11pt], Cambria [10.5pt], or Helvetica [10pt].
- ^ You will need to include a Title, Author list, Abstract, and the following sections: Introduction, Methodology, Results, Discussion, Limitations, and Conclusions.
 - { **Title:** Title of the article.
 - { **Author list:** First author listed in the primary author. The following authors are the secondary authors.
 - { **Abstract:** Summarize the article in 250 - 300 words. This is generally the last thing written in the article.
 - { **Introduction:** Explain the need to modeling epidemics and why it is important. Describe the situation you are attempting to model and why. Give all relevant background information to the article here.
 - { **Methodology:** Discuss/explain your model, the parameters, and how you got your numerical solutions/plots. You should explain the model as completely as possible in a conceptual manner, no mathematical development needed. This means you will need to display your mathematical model and explain it, but you do not need to do any math. Include examples of possible values for the parameters to help readers understand what they mean. You should explain what values you will be using for each parameter and where/how you came up with these values (i.e. if you need a transmission rate for HIV, then you can use historical data. You would need to explain this process for each of your variables.). Remember to cite your sources!
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 - { **Conclusions:** Summarize the report with the big picture findings. Briefly explain your model, your results, and the important points of your discussion.

Presentation (15%)

- ^ Easy and interesting to read. I.e. uses relevant and varied vocabulary, doesn't describe everything the same way over-and-over again, etc.
- ^ Grammatically and stylistically correct with a uniform writing style.

Visuals (10%)

- ^ Consistent presentation of graphics. I.e. all of the plots are the same size, include proper and accurate axis labels, etc.
- ^ Uniform document design and layout. I.e. no random blank pages, missing sections of text, etc..