Developing a Christian Mind

Luck, Chance, Statistics

January, 2006

Course Description

Public opinion polls both reflect and shape public opinion, but how are they conducted and what do they really mean? What position should one take regarding lotteries and casinos? What is a false positive, and how does that affect my health care choices? This course equips students with the reasoning skills necessary to interpret and evaluate many of the statistical arguments that are common in contemporary speech. Discussions focus on how probability and statistics can be used to seek truth and pursue justice, but also how they can be used to deceive and manipulate. Particular attention is paid to public opinion polls and other surveys of human subjects. Advantages and disadvantages of putting our trust in numbers and the role of probability as a part of creation are also considered. No previous statistical training is required, but a willingness to learn the necessary mathematical material is assumed. This course focuses on a conceptual understanding of probability and statistics and on the issues surrounding their pervasiveness in our culture, rather than on the technical skills required to be a practitioner of statistics.

Instructor

Randall Pruim
284 North Hall
526-7113
rpruim@calvin.edu (preferred to phone messages)

Office hours by appointment or just stop by.

Required Texts

• The only required textbooks for this course are the two books common to all DCM sections
  – Engaging God’s World by C. Plantinga, and the DCM Reader

• A number of additional readings and handouts will be distributed in class or available via the web. To help defray the cost of these copies, each student must pay $15 to Sharon Gould in the Mathematics and Statistics Department Office. You may pay cash or write a check to Calvin College.

Electronic Course Materials

• Check your email daily. If I forget to mention something in class, or if someone asks me a question and I think the whole class would benefit from the answer, I will send email to the class. You are responsible for any information communicated via email.

• The course home page is located at http://www.calvin.edu/~rpruim/courses/dcm/06/
  – Materials that I produce will typically be available here as pdf files.
Grading

Grading will be based on quizzes, assignments, a mid-term, and a final. Short quizzes will be given most days covering the readings or assignments due that day. Assignments will be varied. You may be asked to give a written response to a reading or topic, to carry out an activity and report on it, or to work some problems to help you understand some mathematics/statistics. All work must be done on time.

While it is always the case that the same assignment will take different students different amounts of time, you should plan on 3–4 hours of work outside of class each day. If you are spending significantly less time than that, you probably are not doing all you should be doing. If you are spending significantly more time than that, come see me.

Typical Class Schedule

- Days with plenary session (Jan 4, 6, 10, 12, 17, 19)
  - 2:00–2:15: meet in NH 261
    * Devotions, Quiz, Announcements, etc.
  - 2:25–3:20: plenary session in FAC auditorium
  - 3:40–4:50: return to NH 261
    * discussion of plenary session, preparation for next day, etc.

- Days without plenary session (other 9 days)
  - meet in NH 261 2:00 – 4:50
  - devotions, quizzes, discussion of readings, learn some statistics, in-class activities, preparation for next day, mid-term (tentative date: Jan 16), final (Jan 24), break, etc.

Today’s Plenary Session

An Education for What? Kuyper and the Project of Christian Higher Education, James Bratt

- As you walk over, consider the following question:
  There are many good and worthy needs that you could try to address in your vocation. There are many good and worthy jobs, and you probably have the skills and talents to do more than one of them. Besides your job, you can serve your family, your church, your friends, and your community through volunteer work. You cannot possibly serve all the good and worthy needs out there. So how do you choose which ones take priority?

- During the lecture, watch for
  - Possible answers to the question above.
  - What historical events and cultural movements shaped Kuyper’s thinking?
  - What was Kuyper’s response to these? Why?
Wednesday, January 4: Introduction

Readings

- Pollster says churches put too much value on numbers (GR Press article by David Yonke)

Class

- 2:00–2:10 Welcome
- 3:40–4:50
  - Course Introduction
  - Discussion of Plenary Session
  - Pollster says churches put too much value on numbers (GR Press article by David Yonke)

Preparing for Tomorrow

Required Readings

- From Engaging God’s World
  - Preface
  - Chapter 1: Longing and Hope

- From the DCM Reader:
  - Preface
  - Chapter 1 Introduction
  - Garber, To See What You See
  - Colson & Pearcey, What Are We Doing Here?
  - Sire, What is a Worldview?

Response essay

- In response to the reading, I would like you to respond to the following statement:

  It is important to be aware of one’s own worldview.

Focus your answer on one or two (most important) reasons why you think it is or is not important. Do not give me a list of all the reasons you can think of. Your response should be typed with double or line-and-a-half spacing. The length should be between a paragraph and a page.
How to Read

- Look over any pre-reading questions that either come with the reading (see the *DCM Reader* Points to Look For, for example) or that I give you. These questions will help you place the reading in context as you go along. You might also quickly scan over the reading to see if it has things like section headings that will help you see the general outline before you begin.

- As you read, underline, highlight, make marginal notes, etc. Also keep a piece of paper handy to jot down questions or ideas that don’t fit in the margins of the text.

- When you finish reading, go back and organize these into reading notes. Include in these notes
  - an outline of the important points of the reading, including supporting data, examples, arguments, etc. as appropriate,
  - important terms used and what they mean,
  - connections/comparisons to other readings,
  - any questions you have, points you don’t think you understand, etc.

You might also like to leave space to add things to your notes during class discussion.

- You will be allowed to use these notes when you take your quiz tomorrow, and you will be required to turn them in with your quiz. (You will get them back.)

- After doing all the readings for the day put your notes aside and see if you can remember the main points of each reading and any important connections, similarities, disagreements, etc. among the readings.

- Treat plenary talks much like readings (perhaps think of them as listenings). Your “reading notes” should include notes based on the plenary lecture if there was one.

- Be prepared for the quiz. It will cover the readings and today’s plenary session.

  Most days (including tomorrow) will begin with a short quiz. The quiz may have multiple choice, true/false, or short answer questions on it. Typically we will grade it and discuss it in class. The quizzes serve two purposes: to check that you have done the reading and understood its main points, and to bring up issues for further discussion in class.

Getting Ahead

If you want to read ahead, you can read continue reading from *Engaging God’s World*, the *DCM Reader*, or other readings I assign in class. We will eventually read all of Plantinga’s book, but we will omit some of the readings from the *DCM Reader*. Here are some sections I do not plan on assigning:

- Chapter 2: omit *Pilgrim at Tinker Creek* (Dillard)
- Chapter 3: omit *Romeo Must Die* (Arvin)
- Chapter 4: omit *Nuremburg or National Amnesia? A Third Way* (Tutu) and *Harsh Politics, Extravagant Forgiveness* (Ruden)

These articles are good, too. I just want to reduce the reading load some. You are, of course, welcome to read them even though they are not assigned.
Discussion Groups

From time to time we will discuss topics or do activities in small groups. The table below will be used for making the groups. It also includes email addresses in case you need to contact a member of the class.

Each student is assigned a letter and a number according to the table below. We will use these letters and numbers to form groups.

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<thead>
<tr>
<th>letter</th>
<th>number</th>
<th>name</th>
<th>email</th>
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<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>Bartel, David M.</td>
<td><a href="mailto:dmb33@calvin.edu">dmb33@calvin.edu</a></td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>Benthem, Jacob R.</td>
<td><a href="mailto:jrb38@calvin.edu">jrb38@calvin.edu</a></td>
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<td>C</td>
<td>3</td>
<td>Bonthuis, Brendan J.</td>
<td><a href="mailto:bjb29@calvin.edu">bjb29@calvin.edu</a></td>
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<tr>
<td>D</td>
<td>4</td>
<td>Bowater, Maria L.</td>
<td><a href="mailto:mlb36@calvin.edu">mlb36@calvin.edu</a></td>
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<tr>
<td>E</td>
<td>5</td>
<td>Bratt, Timothy A.</td>
<td><a href="mailto:tab5@calvin.edu">tab5@calvin.edu</a></td>
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<tr>
<td>F</td>
<td>6</td>
<td>Elenbaas, Mark E.</td>
<td><a href="mailto:mee3@calvin.edu">mee3@calvin.edu</a></td>
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<td>A</td>
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<td>B</td>
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<td><a href="mailto:mrk6@calvin.edu">mrk6@calvin.edu</a></td>
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</tr>
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<td>Sterenberg, Joshua P.</td>
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<td>Tan, Tat Ui D.</td>
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<td>Van Kampen, David A.</td>
<td><a href="mailto:dav23@calvin.edu">dav23@calvin.edu</a></td>
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Preparing for Tomorrow’s Readings

Here are two discussion questions to get you thinking before you do the reading for tomorrow.

1. Each of the following activities is important for a Christian.
   
   (a) Develop your devotional life through prayer, worship, and Bible study.
   (b) Develop an attitude of graciousness towards others and a habit of being patient, honest, compassionate and charitable.
   (c) Develop your God-given talents, and serve other people, by finding a vocation at which you can do well; work at that vocation (parenting, a career, volunteer work, etc.) with honesty and dedication.
   (d) Develop your intellect and increase your knowledge – by studying during your school years and continued learning throughout your whole life.

   If you had to pick one to concentrate on (without neglecting the other three), Which one would you say is the most important for having a positive impact on the world? Which one would you say is the most important for your long-term happiness and fulfillment? If you don’t have the same answer for both questions, why not?

2. How do we know the difference between right and wrong? Different people answer that question differently. Christians typically answer that question with reference to God’s revealed word and the Holy Spirit’s guidance. Suppose, however, that you were not a Christian. Which of the following answers would have the most appeal or make the most sense to you?
   
   (a) There is no ultimate “right” and “wrong.” Each individual can decide for himself or herself how to live.
   (b) You should be free to do what you want, as long as you don’t hurt other people.
   (c) Society has legitimate authority over individuals. Society should enforce rules to ensure that each person does their fair share and doesn’t take advantage of others.
   (d) We can use our intelligence and common sense to figure out “right” and “wrong” – rules for living so that we balance our individual rights with our responsibilities to take care of each other.
   (e) The right way to live is that each individual is responsible for developing, within himself or herself, virtues like diligence, patience, honesty, courage, temperance, justice and compassion.
   (f) Answer of your own devising. (If you don’t like any of the answers above, how would you answer the question?)