The aim of this course is to reflect upon new challenges arising from the development of recent and future technologies in the field of biology from the point of view of the tradition of political thought. The course focuses less on the technologies themselves (such as personality-altering pharmacology, harvesting human organs for transplant, genetic engineering, and human reproduction in the laboratory) and more with the explicit and implicit questions of value they raise. Whereas gratitude is the most appropriate response for those developments in biological science that have done so much to alleviate human suffering, it is also the case that we now find ourselves on the threshold of an unprecedented power to shape the character of human life—a “brave new world” that brings with it a number of fundamental questions that warrant serious and sustained examination.

This course explores two sets of questions, both of which have deep roots in the tradition of political thought. The first group of questions arises from the undisputed and still-growing authority of science in the modern world: How are we to navigate the competing claims to authority put forward by science, politics and religion? or, in the language of Aristotle, Who among these competing claimants should rule? Should politicians monitor or put limits on scientific development? Should scientists be left to monitor themselves? On the basis of what values could they do so? What are the implications for political democracy in a world that increasingly defers to scientific expertise? Is the authority of science an adequate replacement in the modern world for the authority that once attached to religion? In short, what is or ought to be the relationship between scientific, religious, and political authority in the modern or post-modern world?

The second set of questions revolves around our understanding of the nature or character of human life itself. We will investigate the moral questions that surround the beginning, end, and center of human life: our natality, our mortality, and our excellence and happiness—our flourishing. What is the proper attitude toward human procreation? Should we regard nascent human life as a gift from nature or grace to be cherished, even revered, or as the product of an evolutionary process that does not care for us and with which we are free to tinker? What is the proper attitude toward human death? Should we seek the indefinite extension of the human lifespan, or should we, in the words of the ancient philosophers, “learn to die”? What constitutes human excellence or happiness? Would a perpetual good mood, induced by ever-more effective pharmacology and high-tech amusements, constitute human happiness? Or is human greatness inextricably linked to human misery, as Pascal thought, and must we accept some share of the latter so as seriously to pursue the former?
Course Design:

“Biotechnology and Politics” integrates two distinct types of material. The first consists of classic texts in the history of political thought, supplemented by classic literary texts that bear directly on the theme of the course. The second draws upon the work of the most influential contemporary thinkers who address the underlying ethical issues imbedded in the biotechnological revolution. A unique aspect of this course is that it includes campus visits and lectures by scholars or public intellectuals who are on the cutting edge of this debate. This has been made possible through the generosity of donors to the Political Science Department’s Tocqueville Program. Students will have an opportunity to interact with speakers in both formal and informal ways during the course of the term.

The course will provide students with a brief overview of the kinds of issues raised by classic texts in the history of political thought as they bear on biotechnology and politics. Students will be challenged to examine critically the often competing perspectives raised by these authors—from Francis Bacon’s vision of a utopia ruled by scientists, to Rousseau’s concerns for what the advance of science does to our souls. Against this backdrop, students will read a variety of contemporary authors whose engagement with the revolutionary new technologies in biology have led them to grapple with questions about what it means to be human, as well as the relationship among the competing authorities of science, politics and religion in the modern world.

Guest Lecturers (Sponsored by The Tocqueville Program):

January 26: Robert P. George, "Science, Philosophy, and Religion in the Embryo Debate"
Robert P. George holds the McCormick Chair in Jurisprudence at Princeton University and is the founding director of Princeton's James Madison Program. He is also a former member of the President's Council on Bioethics and the UNESCO World Commission on the Ethics of Science and Technology. His books include In Defense of Natural Law and Embryo: A Defense of Human Life. The New York Times recently called him “this country’s most influential conservative Christian thinker.”

March 16: Lee M. Silver, "Choosing the Genes of Our Children and the Future of Humankind"
Dr. Lee M. Silver is a professor at Princeton University in the Department of Molecular Biology and the Woodrow Wilson School of Public and International Affairs. His most recent book is Challenging Nature: the Clash of Science and Spirituality at the New Frontiers of Life. He has testified before both state governments and the U.S. Congress on biotechnological issues, and has been a frequent commentator on national television programs, including 20/20 and 60 Minutes.

April 14: Peter A. Lawler, "Stuck with Virtue in our Pro-Life Future: The Persistence of Human Nature in the Era of Biotechnology"
Peter Augustine Lawler is Dana Professor and Chair of the Department of Government and International Studies at Berry College, and a former member of the President's Council on Bioethics. He has written or edited a dozen books, including Aliens in America: The Strange Truth About Our Souls and Stuck with Virtue: The American Individual and Our Biotechnological Future.
Requirements:

Participation: Perfect attendance in class and at guest lectures with no active participation earns a C for class participation. The addition of regular participation earns a B; frequent, helpful, intelligent participation earns an A. After 2 unexcused absences, every further absence results in the loss of one partial letter grade (B becomes B-, B- becomes C+, and so on).

In addition, every student should plan to attend five (5) weekly discussion sections over the course of the term. Any student who cannot, for scheduling reasons, meet this requirement, should meet with me as soon as possible to arrange an alternative.

Summarization: After doing each day’s reading, write down a single paragraph summarizing what you’ve read. It may be typewritten or handwritten. Keep your summaries in a notebook which you bring to each class meeting. Summary notebooks will be collected and graded at several randomly determined points during the term.

Short Essays: You will write several brief essays over the course of the term (900 words, maximum). In these essays, you will offer an interpretation of a classic literary or philosophic text. There will be four opportunities for such essays, of which each student must do three (3).

Term Paper: You will write an extended essay at the end of the term (2500 words, maximum). It will be a thematic treatment of either a question of your own design one of the basic questions of the course: the place of science in a free society, the proper attitude toward the beginning of human life, toward human flourishing, or toward death. A proposal, in the form of a thesis paragraph and outline, will serve as a preparatory exercise for this paper.
Grading:

Breakdown of Course Grades by Weight:

- Participation: 20%
- Summarization: 15%
- Short Papers: 30%
- Final Paper: 35%
- Total: 100%

Grade Scale:

<table>
<thead>
<tr>
<th>Grade Values</th>
<th>Grade Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 4.0</td>
<td>A 3.83-4.00</td>
</tr>
<tr>
<td>A- 3.7</td>
<td>A- 3.50-3.83</td>
</tr>
<tr>
<td>B+ 3.3</td>
<td>B+ 3.17-3.50</td>
</tr>
<tr>
<td>B 3.0</td>
<td>B 2.83-3.17</td>
</tr>
<tr>
<td>B- 2.7</td>
<td>B- 2.50-2.83</td>
</tr>
<tr>
<td>C+ 2.3</td>
<td>C+ 2.17-2.50</td>
</tr>
<tr>
<td>C 2.0</td>
<td>C 1.83-2.17</td>
</tr>
<tr>
<td>C- 1.7</td>
<td>C- 1.50-1.83</td>
</tr>
<tr>
<td>D+ 1.3</td>
<td>D+ 1.17-1.50</td>
</tr>
<tr>
<td>D 1.0</td>
<td>D 0.83-1.17</td>
</tr>
<tr>
<td>D- 0.7</td>
<td>D- 0.50-0.83</td>
</tr>
<tr>
<td>F 0.0</td>
<td>F 0.00-0.50</td>
</tr>
</tbody>
</table>
Required Texts:

ISBN: 0882951262


ISBN: 0385522827

ISBN: 0060776099

ISBN: 1932236848

ISBN: 0521424453

ISBN: 9780060582685
Schedule of Readings:

January 12:  Introduction.

**January 22, 12:00 PM: Brave New World Papers Due.**

January 26:  George and Tollefson, *Embryo*, chapters 1 and 2.

**January 26, 8:00 PM, Younts Center: Robert P. George Lecture (Attendance Required).**

January 28:  *Embryo*, chapter 3.
February 9:  *New Atlantis*, p. 46-60.
February 16:  *New Atlantis*, p. 70-83.

**February 17, 12:00 PM: New Atlantis Papers Due.**

February 18:  Descartes, *Discourse on Method*, Parts I-II.
February 23:  *Discourse on Method*, Parts III-IV.
February 25:  *Discourse on Method*, Part V.
March 2:  *Discourse on Method*, Part VI.

**March 3, 12:00 PM: Discourse on Method Papers Due.**


**March 16, 8:00 PM, Younts Center: Lee Silver Lecture (Attendance Required).**


April 1: Rousseau, *Discourse on the Arts and Sciences*, Part II, p. 16-28. **Paper Proposals Due.**


April 8: Lawler, *Stuck With Virtue*, 139-154.

April 13: *Stuck with Virtue*, 175-198.

**April 14, 8:00 PM, Younts Center: Peter Lawler Lecture (Attendance Required).**

April 15: *Stuck with Virtue*, 199-209.*

April 20: Kass, “L’Chaim” (Moodle).


April 24: General Conclusion.

**April 25, 5:00 PM: Final Paper Due.**

*Important Note*: To accommodate Furman Engaged! Day, classes scheduled for Friday, April 16 classes will meet on Thursday the 15th, and most Thursday classes will be cancelled. **Because we have a guest speaker, we will meet as usual.** If you have a conflict, obtain a “sponsored event” form from me to excuse absence from your other classes.
Writing Assignments

A. Short Papers. Each short paper is not to exceed 900 words. Students must complete 3 of 4 short paper assignments.

These short papers are interpretive essays, in which your goal is to show your mastery of a classic text. Your aim should be to show that you (1) understand the text to be interpreted and appreciate its significance; (2) have thought about the question posed and answered it; (3) have organized your answer with a thesis, a conclusion, and a logical sequence of paragraphs that advance an argument from the thesis to the conclusion; (4) have marshaled specific evidence from the text to support of your thesis in a manner that demonstrates independent engagement with the text; (5) have carefully edited and proofread your writing to produce a compact and compelling style.

1. Aldous Huxley’s *Brave New World* (Due Friday, January 22, 12:00 PM).
   A. Aldous Huxley’s *Brave New World* oscillates between two distinctly unappealing human communities: the civilized but soulless dystopia of the Brave New World, and the soulful but brutal dystopia of the reservation. Both are obviously unattractive alternatives, but considering them might point to a more sane possibility not explicitly described in the text. Consider the character of either (A) human procreation, (B) human happiness, or (C) human death in each of Huxley’s two dystopias. What does such a comparison suggest might constitute a sane perspective on human generation, human flourishing, or human mortality?
   B. The attempt to reduce suffering and extend happiness to the greatest number seems like a worthy and admirable human aspiration. Yet those living in Huxley’s Brave New World, which has succeeded in accomplishing these goals, seem somehow less than fully human. What is missing from their lives? What does Huxley’s vision suggest about the relation between suffering and genuine human flourishing?

2. Francis Bacon’s *New Atlantis* (Due Wednesday, February 17, 12:00 PM).
   A. In the *New Atlantis*, Francis Bacon present an attractive image of a new society toward which he would like to move his readers. What is the place of and relationship between science, technology, religion, and humanism in Bensalem? Develop your answer with reference to specific events, institutions, and/or personages from Bacon’s fable.
   B. The governor of the house of strangers in Bensalem tells his guests that, of all those sailors who have arrived in Bensalem in the course of nineteen hundred years, only thirteen have returned. Indeed, Bacon’s description of Bensalem as a supremely
hospitable, secure, prosperous, and orderly society makes one wonder why anyone would ever leave. Make the case that those thirteen souls who returned home were right. What is wrong with Bensalem?

3. Rene Descartes’ *Discourse on Method* (Due Wednesday, March 3, 12:00 PM)
   A. In part I of the *Discourse on Method*, Descartes claims that he “revered our theology,” and that he has not submitted the “revealed truths” that are “above our intelligence” to “the feebleness of my reasonings.” He claims, in other words, that his project has no bearing on religious questions. And yet, in part VI of the *Discourse*, he makes clear that he was concerned that his book might land him in the same theological hot water in which Galileo found himself just a few years before. Why? Does Descartes’ method—the method at the core of all of modern science—pose an implicit challenge to the Christian religion?
   B. The two most famous ideas of Descartes’ *Discourse on Method* are (A) the first principle of his metaphysics, “I think, therefore I am;” and (B) his promise that his physics can help us “make ourselves like masters and possessors of nature.” What is the relation between these two ideas: what is the relation between Descartes’ physics and his metaphysics?

4. Jean-Jacques Rousseau’s *Discourse on the Arts and Sciences, Letter to Voltaire, and Discourse on the Origins and Foundation of Inequality Among Men* (Due Wednesday, April 7, 12:00 PM).
   A. In his *Discourse on the Arts and Sciences*, Rousseau praises Bacon and Descartes as the “Preceptors of Mankind.” Be that as it may, his doubts about the wisdom of Descartes’ project to make mankind “masters and possessors of nature” are obvious, and he gives us profound reason to doubt the goodness of a society ruled by scientists such as depicted in Bacon’s *New Atlantis*. How is Rousseau’s respect for Bacon and Descartes compatible with his criticism of the enlightenment world they helped bring into being?
   B. What is Rousseau’s response to Voltaire’s attack on the doctrine of philosophical optimism: “whatever is, is right?” Does he hold that nature loves us? If not, how does he intend his depiction of nature to console us in the light of Voltaire’s terrifying account of human suffering in “The Lisbon Disaster?” Is this consolation adequate?

B. Term Paper.

All students will write a major paper for this course (2500 Words, maximum). Each paper must include three sections: (1) it should find its starting point in a specific question raised by recent or anticipated advances in biotechnology, (2) draw on the readings assigned for the course (in addition to those bearing on the specific topic of the paper), and (3) conclude with
an individual assessment or position on the issue raised in the essay. Essays will be graded on (1) quality of writing, (2) demonstrated understanding and appreciation of the texts discussed, (3) synthesis of diverse materials into a coherent whole, (4) organization, and (5) coherence and plausibility of argument.

**Deadlines:** A one-paragraph thesis statement and provisional outline is due in class on Thursday, April 1. This should include the question or problem you intend to investigate, the position or approach you plan to take, and those readings you intend to incorporate in your work. This may and usually is modified as you get deeper into your subject matter, but provides an indispensable starting point. The final paper can be handed in at any time up until reading day, Wednesday, April 28, at 5:00 PM.

**Sample Questions:** Students are encouraged to pursue their own interests and questions in their papers, although all topics must be approved. The following sample questions (or parts of them) are also possible, but are meant primarily to provide some ideas.

1. At the climactic moment of *Brave New World*, Aldous Huxley presents us with the following dialogue between John the Savage and Mustapha Mond, the World Controller:

   “I like the inconveniences,” [said the Savage.]
   “We don’t,” said the Controller. “We prefer to do things comfortably.”
   “In fact, said Mustapha Mond, “you’re claiming the right to be unhappy.”
   “All right then,” said the savage defiantly, “I’m claiming the right to be unhappy.”
   “Not to mention the right to grow old and ugly and impotent; the right to have syphilis and cancer; the right to have too little to eat; the right to be lousy; the right to live in constant apprehension of what may happen tomorrow; the right to catch typhoid; the right to be tortured by unspeakable pains of every kind.” There was a long silence.
   “I claim them all,” said the Savage at last.
   Mustapha Mond shrugged his shoulders. “You’re welcome,” he said.

Take a side in this argument. Make the case for the position of either Mustapha Mond (with the help of Bacon, Descartes, Voltaire, and Silver) or John the Savage (with the help of Rousseau, Lawler, and Kass), while showing understanding of the weight of the arguments on the other side.

2. What is the proper human attitude toward our mortality? Is the fact of our death proof of nature’s hostility toward us, and does our mortality therefore justify Descartes’ project to make us “masters and possessors of nature”? Is the proper response to death to extend life
as long as possible, and use every means available to palliate the inevitable when it comes? Or must we, as the ancient philosophers suggested, “learn to die?” What are our obligations to the dying? What does it mean to “die with dignity?”

3. Scientific developments such as embryonic stem-cell research, *in vitro* fertilization, genetic engineering, and genetic screening raise the question of the proper perspective toward our procreative powers and the beginnings of human life. What attitudes do our texts suggest toward nascent human life? Should we regard it as a gift from nature or grace to be cherished, even revered, as George and Lawler suggest, or as the product of an evolutionary process that does not care for us and which we are free to bend to our own purposes, as Silver argues? What does what you have learned from our texts about these questions suggest our attitude should be toward the scientific developments mentioned above?

4. Biotechnology is used not only to ward off obvious evils, such as disease and death; it is also used to acquire goods, such as beauty, strength, intelligence, pleasure, and happiness itself. Our biotechnological world surrounds us with steroids, mood stabilizers (such as Ritalin or Prozac), intelligence-enhancing drugs such as Modafinil, not to mention the panoply of new technologies that enhance physical appearance or sexual performance, such as plastic surgery, Botox, Viagra, and silicone breast implants. While the use of some of these technologies is often ridiculed and sometimes criminalized, they are clearly on the rise, for the obvious reason that few of us are completely immune to the temptation to use a little help in our pursuit of the various kinds of human perfection, such as athletic prowess, beauty, or wisdom. On the basis of our readings over the course of the term, what are the best arguments (a) for and (b) against the use of biotechnology in the pursuit of human excellence and happiness? Which of these arguments seems to you most convincing, and why?

5. Lee Silver argues that, in morally difficult cases involving biotechnology “a secular society with a well-informed citizenry will understand the impossibility of drawing nonarbitrary lines, and will generally allow those most intimately affected in a particular case to make a decision in consultation with professionals.” He thus proposes a “libertarian” solution to the problem of technology: leave decisions up to those most intimately involved. Peter Lawler, by contrast, argues that this “libertarian fantasy” will in fact lead to a “statist reality,” in which we will all be subject to increasing pressure to make use of technologies such as genetic screening and enhancement. Is a libertarian solution for the problem of the authority of science in a democratic society truly possible?

6. Aldous Huxley argues that we are moving all too rapidly toward what has been called a “post-human future;” Lee Silver, for one, is excited about that possibility. Peter Lawler, by contrast, states that “I don’t believe we need to fear the advent of a posthuman future,” fearing that, instead of coming to resemble the inane, happy-go lucky, centrifugal bumble-puppy enthusiasts of the Brave New World, our technological advancements will have the paradoxical effect of increasing the all-too human anxieties they are designed to relieve. Are we headed toward a post-human future? Should we celebrate the possibility with Silver or fear it with Huxley? Or will our technological future fail to make us at home in the world, as Lawler writes, and unintentionally render us more anxious and in need of virtue than ever?
7. How are we to navigate the competing claims to authority put forward by science, politics and religion? Which among these competing claimants should rule? Should politicians monitor or put limits on scientific development? Should scientists be left to monitor themselves? On the basis of what values could they do so? What are the implications for political democracy in a world that increasingly defers to scientific expertise? Is the authority of science an adequate replacement in the modern world for the authority that once attached to religion? In short, what is or ought to be the relationship between scientific, religious, and political authority in the modern or post-modern world? In answering this question, consider the perspectives of our three contemporary authors (George, Silver, and Lawler), as well as the relation between science and politics indicated in Bacon’s *New Atlantis* and Rousseau’s *Discourse on the Sciences and the Arts.*