Proposal for an Elon University QEP in

Futures Thinking and Innovation

*American education calls for a far-reaching shift in the focus of schooling from accumulating course credits to building real-world capabilities... Americans need to mobilize again to advance a contemporary set of goals, guiding principles, and practices that will prepare all college students – not just the fortunate few – for twenty-first century realities.*


*The world can afford to have none of you on the sidelines. Too much is hanging in the balance. We need your spirit of entrepreneurship, your creativity, and an innovative vision of tomorrow that your generation can forge...My best hope for the future is you.*

– Elon University President Leo Lambert, Charge to the 2011 graduates, 6/20/2011

President Lambert’s words are not just standard graduation fare. They express a deep sense of all of our hopes for Elon graduates’ contributions to the world, especially at this time in national and world history when, as President Lambert noted earlier in his Charge, we face critical and unprecedented challenges in areas from energy to education to environment, democracy, and other vital issues. This is also a vision put forward by a range of top global leaders and institutions. Yes, the world needs such thinkers!

We must focus more specifically on preparing students to zero in on the difficult goal of meeting the needs of tomorrow; each of the kinds of thinking we need – creativity, innovative vision, and critical and constructive styles of thinking – can be taught at a whole new level of deliberate aspiration. It is possible to foreground and embrace those skills in a much more thorough and energetic way. The Futures Thinking QEP is a proposal to identify and adopt the best approaches to embedding the ways of thinking in our community that lead to informed creativity and vision.

We propose that this is the perfect moment in Elon’s development to commit ourselves to an ambitious and highly visible new program in *Futures Thinking and Innovation.*
What is Futures Thinking?

- One way to conceptualize FT is as *foresight education*. A Delphi study of global faculty teaching foresight courses found that futures thinkers:

  strive to act on a worldview centered in a long-term perspective; view the future as plural and alternative rather than as singular and predictive; inculcate a global orientation, a toleration for complexity and ambiguity, and the ability to imagine many alternative futures and to envision, single out, and pursue preferred futures.

Futurist Stewart Brand points out that the world runs on many different rhythms and time-scales, from the effervescence of fashion and media trends through the longest-term geological and even astronomical processes. Politics, economics, business, and culture all have their own (in fact multiple) tempos. From this angle, FT is at the very least the reminder that there are many vital longer-term processes complementing the flash and impermanence of the ones that so often preoccupy us. Simply coming to view the world from the perspective of centuries, say, rather than the last business quarter or election cycle, highlights entirely different kinds of effects: the long-term movement or drift of an economy or nation or ecosystem, for example.

Both time perspectives (and many more) are valid, to be sure, but one could certainly argue that we take too little care for the longer-term right now. (Otherwise, would our politics be such a mess? Would our environment?)

Likewise, the capacity to envision multiple possible futures gives us a greater freedom to choose in the present. Those with a wide and strong sense of what *might* be will be the ones to shape what eventually *is*.

- FT encompasses many of the traditional goals of liberal education, enhancing those goals and inspiring them to a broadened and more energetic mandate when set within a futures-oriented framework. Tony Wagner, co-director of Harvard’s Change Leadership Group, outlines “Seven Survival Skills” in his book *The Global Achievement Gap* that are being used widely in education to redesign and reframe curricula in a futures-oriented direction:

  *Critical Thinking and Problem Solving* – in the FT framework, activating a greater ability to ask the right questions at the right time: that is, to be ready to offer new options in a timely way and innovate to meet needs in a new atmosphere.

  *Collaboration and Leadership* – equipping people to understand how to influence change, appropriately working in person, and online and implementing teamwork in new ways.
Agility and Adaptability – developing flexibility and engendering readiness to change, implementing many tools and approaches to solve unexpected problems and deal with unintended consequences. Clay Parker of BOC Edwards noted, “I can guarantee the job I hire someone to do will change or may not exist in the future, so this is why adaptability and learning skills are more important than technical skills.”

Initiative and Entrepreneurialism: – cultivating an achievement focus and drive for futures-oriented results.

Accessing and Analyzing Information – honing the ability to process, analyze, and evaluate information effectively: in the case of future trends, to detect patterns and make informed decisions in order to move forward in a positive manner.

Curiosity and Imagination – developing approaches likely to generate effective solutions that are also beautiful, unique, and meaningful – to make a better future.

Effective Oral and Written Communication – sharpening the ability to present ideas within a society and across cultures in a clear, concise, and compelling manner.

- For Elon specifically, we have crafted our own definition of FT, tailored to Elon’s situation and strengths at this moment in its development:

Futures Thinking is an approach that is alert to emerging changes in social, economic, and cultural conditions and scientific understanding. It primes people to recognize emerging challenges and opportunities and turn them to their favor. Futures Thinkers are equipped with a specific set of skills for critical, creative, and constructive thinking. They know how to face problems and find in them positive possibilities; to make connections across disciplines and disparate areas of life; they embrace the largest humane values – social justice, the expansion of knowledge, the beauty of the world, the welfare of all life and the planet – and are more capable of carrying them forward in unexpected and transformative ways; they are keyed to the enormous potentialities for both transfiguration and disaster in today’s rapidly-changing, interdependent and overextended world as we transform/settle forward our new and renewed institutions, scientific understandings, and cultural forms.
I. Proposal Description

This QEP invites Elon to embrace Futures Thinking with a range of interconnected and thorough-going initiatives. First and foremost, we propose a range of **Curricular Initiatives** to systematically train students in Futures Thinking deeply and across the curriculum. In outline, these initiatives could feature:

- Futures Thinking *systematically integrated into General Studies*, from the GST110 level through the interdisciplinary upper-level seminars.

- Each department and program encouraged to establish a *futures component in senior seminars or as a separate course*.

- A *Futures Studies minor* developed with affiliated faculty from across the University, on the model of International Studies and Women’s and Gender Studies, featuring an optional "Immersion Semester" offering carefully-coordinated clusters of futures-oriented courses in various disciplines (primarily incorporating already existing courses that have a futures approach or could easily be adapted). There might also be a coordinated travel component or complement as well.

- An in-house *Futures Advocacy Initiative* and a *Visiting Visionaries Program* to promote and provoke Futures Thinking across the curriculum.

On the **Community** level, we propose to establish a *campus-wide foresight unit*, including faculty, staff, undergraduate and graduate students, alumni, advisory board members, and outside experts led by a full-time strategist tasked with monitoring emerging-futures scenarios, mitigating risks, and optimizing on opportunities for Elon in the mid-term future (say, 10-20 years) out beyond the planning horizon of our current “long-term” plans.

Just as we have successfully identified ourselves with experiential and engaged learning and international travel, so Elon could now seek to identify itself as a trend-setter, ahead of the curve, in education for Futures Thinking, by making Elon a *national model* and a *visible generative node* both for new curriculum and for new ideas in the area.

II. Goals and Strategies: Student Outcomes

The primary goal of this QEP is to **enable our students to become tomorrow’s change-makers for the better**. Graduated from a distinctively futures-oriented curriculum, deeply supported and mirrored by the remade character of the institution, our students will possess (and *know* that they possess) a unique, widely applicable and increasingly essential set of skills. Our hope for them, just as President Lambert suggests, is that these skills will better enable our students to become leaders in all realms.
“In today’s highly competitive global ‘knowledge economy’, all students need new skills for college, careers, and citizenship. The failure to give all students these new skills leaves today’s youth – and our country – at an alarming competitive disadvantage. Schools haven’t changed; the world has. And so our schools are not failing. Rather, they are obsolete – even the ones that score the best on standardized tests. This is a very different problem requiring an altogether different solution.” – Tony Wagner

Student Outcomes

To operationalize these aspirations, we propose the following set of goals for student outcomes.

Proposal: All Elon graduates should be able to:

1) Articulate at least three significant ways in which patterns of change now visibly developing will affect, and possibly transform, the field of his/her interest/major.

2) Articulate at least three significant ways in which patterns of change now developing will affect, and possibly transform society as a whole.

3) Articulate at least three significant and broad-scale possible mitigations or alternatives to the negative aspects of the patterns of change now being discussed or beginning to emerge.

4) Articulate at least three significant ways in which patterns of change not now visible, but still probable/foreseeable, may affect, and possibly transform, the field of his/her interest/major, and how these might likely influence society as a whole.

4) Use at least three distinct problem-solving or creative-thinking skills to develop original ideas for responses to such patterns of change, both foreseeable and unforeseeable.

5) Point to at least three significant ways in which he or she has already been engaged with Futures Thinking at the personal and institutional levels.

6) List at least three contemporary futures thinkers and briefly articulate their theories and futures-thinking research and approaches.

7) Articulate at least three horizon-scanning approaches that he/she expects to continue to implement lifelong FT to be a mindful global citizen equipped with an understanding of the challenges and opportunities emerging as humans and their tools evolve.
We want our community to deeply understand that the future will not be like the past; that the intelligent application of foresight helps us build a better future, which is a form both of idealism and of service; that it takes a set of new, learnable skills to best identify and creatively respond to the problems and opportunities of our rapidly accelerating evolution, and when we learn and apply them, we can change the world.

Strategies

Although there are many different strategies that might be used to promote these outcomes, for a starting-point agenda we propose at least the following:

1) Systematically integrate FT into General Studies,

FT is arguably necessarily and inherently multidisciplinary: thus GST is one of its natural homes. Moreover, as we hope to promote multidisciplinary thinking in our students as well, there is no better place to begin than at the beginning: in GST110. We therefore propose as the first task the development of Futures-Thinking modules to integrate into GST110 sections, along with pan-sectional events such as a Futures Council, an FT analogue to the Model UN Security Council simulation used by many current GST110 sections. Plenary sessions would involve multiple sections together brainstorming, negotiating, and constructing alternative world-visions across cultural, technological, and political spheres. Current requirements for GST’s interdisciplinary upper-level seminars could also be expanded to include an FT component. Select upper-level students would facilitate the first-year students’ Futures Councils much as the Model UN Club runs (and trains its new members to run) the current Model UNs for the GST110 sections.

2) Encourage each department and program to establish a futures component in senior seminars or as a separate course.

Departmental requirements and course offerings constantly evolve. A recent development in many departments has been the addition of an explicit disciplinary Methods course at (predominantly) the sophomore level, capped at the other end by the Senior Seminar. An earlier development/mandate was the establishment of Senior Seminars themselves. For this QEP we propose an institutional move toward the addition of a FT Component either as a separate course within each major or as a component of the majors’ course such as Methods on the one end and Senior Seminar on the other. This move should also usefully leverage some futures thinking of our own. A rough rubric for such course/components might include some or all of the following themes across the curriculum:
- **Where are we going?** Today’s trends in the field/discipline, and in the world in general as it bears upon the discipline. Many fields are being revolutionized today – many others will be so affected tomorrow. What internal and external forces drive these changes? What sorts of changes are likely or foreseeable in this discipline?

- **Past futures.** How did the discipline project its own future in the past? How did it respond to challenges and changes in the past? What are the lessons, if any, for how we might respond to new challenges and changes in the future? (Note that the answers can vary all over the map. To take the co-authors’ own fields: Philosophy has imagined its future fairly consistently for centuries – though the 20th Century was still a shock – whereas both Environmental Studies and Media Studies did not even exist as recently as a few decades ago. What new disciplines may be arising now?)

- **Resources.** What are the discipline’s resources for dealing with new challenges and changes? Is the discipline resilient, or not? How can we help it to be more so?

- **Wild cards.** What unlikely but possible future developments might change everything for the discipline? (How would, say, the discovery of life on other planets change Biology – or Theology?) What can we do to prepare for such wild cards now?

- **SWOT analysis** applied to disciplines. We’re used to the Strengths/Weaknesses/Opportunities/Threats strategic planning framework as applied to organizations. It can also be applied to disciplines as such. If we take it upon ourselves to be strategic planners for Classical Studies or Chemistry or Anthropology (or…), what do we learn? What might it mean to begin to take responsibility in this way for a discipline as a whole?

- **And more…** These are only a few ways in which various disciplines might begin to look at their own disciplines from an FT perspective. Indeed we think that one of Elon’s distinctive contributions in this are might be to take up these questions explicitly and systematically. It is very rarely done in academia as it stands – another reason why FT is imperative – and so this could be both a very visible and a very important contribution.

3) **Develop a Futures Studies minor**

Many students will want to carry their FT studies farther than the courses suggested in strategies 1 and 2. We therefore also propose the establishment of a program and connected set of further courses that constitute a new Minor in Futures Thinking. At the same time, by bringing together an especially interested and energetic set of faculty members around FT themes, the Minor could provide a means of institutional transformation as well. Affiliate faculty from across the University, on the model of International Studies and Women’s and Gender Studies. The Minor could also support and host the various other campus-wide initiatives suggested here, such as Senior Futures Festival Day, and others. Pedagogical innovations would be natural for it as well, such as an “Immersion Semester”, offering carefully-coordinated clusters of futures-oriented courses in various disciplines, with a coordinated travel component or complement as well.
A Working Group of Elon faculty already exists and has already fashioned a proposal for just such a Minor. The draft rationale reads:

_Futures studies is a perfect fit for the Elon community because it encourages taking a forward-thinking, humanistic, interdisciplinary, global approach to everything one does in life. It is a niche we can fill well because it is where we have naturally been heading with Project Pericles and our initiatives in polling, environmental studies, and the future of the Internet. Accelerating change is making futures studies vital/indispensable. An Elon futures program would be a high-profile, forward-thinking move for the university that would reinforce the centrality of the arts and sciences and liberal studies._

Please note that a copy of the Working Group’s full report – including detailed programs of courses – is appended as Appendix A.

4) Finally, create an in-house **Futures Advocacy Initiative** and a **Visiting Visionaries Program**.

As the Working Group just cited attests, a number of faculty and staff members are already keenly interested in FT. The Futures Advocacy Initiative would explicitly invite them to become FT advocates within the institution: sharing their work and perspectives and regular open meetings, speaking from a FT perspective at Faculty Meetings and other community events, and engaging in Long-Range planning from a FT perspective. Course releases for this purpose should regularly rotate among faculty members. At the same time, the whole community’s FT would be provoked and deepened by a regular series of invited outside speakers who can speak to all of the questions FT poses from, obviously, a very wide range of different points of view. In the first two years of this QEP, we propose that one major theme of this Visiting Visionaries Program be the disciplinary questions posed in point 2 above.

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**The Curriculum is Preparedness!**

An objection sometimes heard is that it is not possible to teach about the future because the future is uncertain. How could we possibly teach about something that is not yet known?

Arguably we do have fairly good knowledge of the future in certain ways. For example, we can reasonably expect demographic shifts in US population toward a significantly older median – and this will have consequences that we need to begin to plan for and take advantage of. The larger point, however, is that FT is not primarily about teaching _knowledge_ about the future. Instead, again, FT is primarily a set of _skills_: skills for dealing precisely with uncertain and wide-open situations. Thus the uncertainty of the future is precisely the _reason_ to teach Futures Thinking, not somehow an obstacle to doing so!
There’s an old adage that generals are always very well prepared to fight the last war. The problem, as we know, is that the next war will not be like the last one. We’d better hope, then, that the military is teaching FT in a big way: that is, not just sticking to the known (the history of past wars) but also the “known unknowns” as well as the “unknown unknowns”. That’s FT! It’s not that we can’t deal with such unknowns, but we certainly can’t deal with them by only applying the lessons of the past – and even moreso will not be able to deal with them if we somehow were to abandon the whole subject because it is so indefinite in the first place. That’s the point in a nutshell: *adaptability, perceptiveness, and innovative thinking are required, and these are teachable skills.*

Paradoxical as it may sound, the fundamental subject of Futures Thinking is not the future. The subject of Futures Thinking is *uncertainty* – and how to expect, recognize, and make the most of it.

Another concern about FT is in some ways just the opposite: that FT requires embracing a particular vision of *desirable* futures that are then promoted to the exclusion of others. (It’s the opposite objection because here the concern is that FT doesn’t really take the future to be open-ended enough.) This may be a worry about environmentalist kinds of FT, for example: that they in fact presuppose a particular green agenda, or a green agenda as such. But, it may be argued, the future is really more uncertain than that, and/or other aspects are more important. Part of the point of FT *is* to inform and expand our choices about future directions, and certainly, viewed this way, green perspectives are one *form* of FT. An important point is that FT as such is not committed to any particular vision of the future or of the desirable future. That is a question within the field, not a presupposition of the field.

Trends indicate that due to the accelerating pace of change most of our students will experience many different careers in their lifetimes, thus it is crucial that they learn how to assess, analyze, adapt, take creative initiative, and cultivate the ability to learn new things. This is what Gregory Bateson famously called “Learning II”, or Meta-learning. It is a higher-level skill, not a routinized field. And that’s precisely the point!

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**III. Secondary Goals and Strategies:**

**Making Elon a National Model of Futures Thinking**

Secondary but, in our view, still vital goals of this QEP include a range of wider institutional outcomes.

- *To enhance Elon’s distinctiveness as an institution.* Few if any of our peer/aspirant institutions have embraced futures thinking and innovation and institutionalized it either
in curriculum or as an operational imperative. A number of recent reports, such as the AACU report quoted at the head of this proposal, have lamented this problem. We therefore have a chance to move ourselves into the forefront of FT, if we seize the moment and act decisively.

Some further possibilities: Consult on futures-planning studies for communities through the Center for Public Affairs. Start an unaffiliated think tank geared toward researching and writing white papers on futures topics. Establish a Futures Institute at Elon University that will serve as a model for a world community working toward global connectedness with the intention to help cultivate preferred futures – it could work as an umbrella organization to coordinate all of Elon’s Futures efforts.

**- To make Elon a visible generative node for new ideas** – that is, specific forms and applications of futures approaches – across the society. A distinctive curriculum is itself a “brand” to be associated with the Elon name. Certain ideas or futures-oriented programs of change could also be developed as a special focus by widely-inclusive groups of Elon faculty along with students and publicized on websites or at conferences.

Initiate a "funding best futures project," which involves students led by faculty filtering foundation requests for philanthropy, with the possibility of developing a global reputation for philanthropic futuring. Create and “brand” a futures studies curriculum for K-12 educators. Launch highly visible and carefully thought-through small-scale pilot projects on or near campus, such as incubators for new technologies, projects to revivify locally degraded economies/ecologies, and arts initiatives with a distinctive futures focus.

**- To give Elon itself, as a continuing and evolving institution that carries the hopes of so many of us, the best chances to survive and flourish in a changing and uncertain world.** In a world facing new challenges that imperil less nimble organizations, Elon-based futures thinking could not only set a new standard for American higher education but can and must also, quite exactly and visibly, apply to itself. That is, we must show the world by the ongoing redesign of our own institution that Futures Thinking is everything that we say it is: both an intellectual delight and a vital prerequisite for future flourishing.

Establish a campus-wide foresight unit to monitor emerging-futures scenarios. Create an independent office of diverse Futures Advocates to challenge and diversify our usual operating assumptions and practices in regard to the future, including establishing a series of invited Visiting Futures Visionary/Scholars who will speak both to Elon’s situation and to the region’s. Commit to funding at least one major new future-oriented regional or global initiative per year, designed from the start to be able to spin off into independent, on-going projects (that might also employ and showcase our students and graduates).
VUCA
Futures Thinking as the Key to Organizational Success

You have had plenty of experience with VUCA even if you don’t know the acronym. Volatility. Uncertainty. Complexity. Ambiguity. This code for awareness and readiness is one advocated by experts such as Bob Johansen, former CEO of the Institute for the Future. It encompasses the anticipation of emerging issues and the probable outcomes of various responses; the identification of likely unintended consequences; and the savvy pursuit of breaking opportunities – all key to organizations today. The presence of VUCA creates risk and opportunity. Johansen says great organizations are able to turn:

- Volatility into Vision
- Uncertainty to Understanding
- Complexity to Clarity
- Ambiguity to Agility

Visionary management of the ongoing evolution of and innovation in institutions of higher education is vital at this time of accelerating change. VUCA is another approach people can learn to apply through an institutionalized structure of Futures Thinking.

IV. Measures of Student Success

The proposed student outcomes outlined in Part II are readily testable and can be measured by Institutional Research, as well as checked through individual departments’ Senior Seminars or other disciplinary-specific exit assessments. More ambitious means of measuring and certifying student readiness should be explored. This is another place to get creative and to keep an eye toward our goals of enhancing Elon’s distinctiveness as an institution and making Elon a visible generative node for new ideas. Let’s set the standard in finding ways to measure success in this area.

For example, we might institute Senior Futures Festival Days, on the model of SURF/Celebrate! Week, in which many/most seniors could share/demonstrate their ideas with posters or in symposia. Invite leaders of business and government in addition to the media and some high-profile speakers and performers and we might have an event visible around the world. The next year, a new flood of futures-interested students…

We will survey graduates two, five and ten years out to investigate how they have implemented FT and seek suggestions for improving the program. We will request alumni to return to teach young incoming students and incoming faculty and staff how to embed FT in their ways of thinking. We can expect many of them will become futurists in their fields due to their Futures Thinking education.
In the long run, the truest measure of success is that our students effectively do change the world in deep, meaningful ways.

Literature Support

A brief selection of relevant references to support the proposal.


Appendix A

**Proposal: A Minor in Futures Studies at Elon University**

Developed in 2007 by the Ad Hoc Group on Futures Thinking at Elon University

**Necessary additions to begin this new minor:** We can accomplish this new minor by simply adding two new courses – Futures Studies and Foresight Methods – although it is advised that all departments should consider how they are approaching the impact of accelerating change in teaching students in their disciplines.

**Required core for a minor in Futures Studies**

**Futures Studies – NEW.** An introductory survey course offering depth of knowledge of the arc of development in cosmology, biology, technology, economics, and other aspects of planet and universe and how an extrapolation of the historic data can offer cues to the future and influence our images of the future to such an extent that they may help create our future.
**Foresight Research Methods – NEW.** Offers an overview of methodological approaches, research methods, and imaging techniques. Covers quantitative methods, and also concentrates on quantitative methods, Delphi surveys, scenario planning, field notes, question development, interviewing, ethnographic research, content analysis, and other tools for modeling and preparing for various futures. (Business/Economics/Mathematics/Sociology/Anthropology)

**Ethics Course – already available at Elon.** The idea of looking at future scenarios and practicing in advance how an individual or group might respond to these scenarios is an emphasis in ethics courses in all disciplines. PHL 215: Ethics and Decision Making; PHL 348/REL 348: Environmental Ethics; BUS 424: Responsible Leadership; COM 395 Media Law & Ethics; POL 335: Ethics in Public Sector.

*(Please note this list of existing courses that could work is based on the 2007 Elon catalog.)*

**ENS 111 Intro to Environmental Science – already available at Elon.** An introduction to Environmental Systems and Sustainability exploring the principles of biological and physical sciences behind ecosystems and focuses on human impact and development of solutions.

**SOC 343 Social and Cultural Change – already available at Elon.** Concern for the nature and direction of modernization provides a foundation in this course. Topics include innovation, diffusion, evolution, revolution.

**ENG ??? Futures in Popular Fiction – similar courses are already taught at Elon in General Studies and English.** A course that brings together a synthesis of the influences of fiction stories, books, comics, films, television, and interactive games on the unfolding realities of technological and social futures. From "Brave New World" to "Ender's Game" to "Star Trek" to "The Matrix" and "I,Robot," science-fiction and cyberpunk images permeate our perceptions of the future to the point at which they sometimes become reality.

**PHL 344 Philosophy of Science** – Includes scientific claims and scientific change. Futures-oriented.

**PHL 342 Philosophy and Society** – Topics include the nature and possibility of social sciences, philosophy of technology and nature of community. Quite futures-oriented.

**POL 321 Public Opinion Polling – already available at Elon** This field contains some futures elements; scenario building and techniques for identifying futures images.

**HNR 230 Exploring Consciousness – already available at Elon – taught as an honors course, fall.** Relates to the idea of consciousness, what it means to exist. Theories behind the study of consciousness are vital to futures of artificial life and artificial intelligence research in addition to the future of humanity. (Philosophy/Psychology)

**COM 371 The Future of the Internet** – Addresses likely development scenarios in communications media and transformational possibilities in the social, economic, legal, and ethical realms. Content will include analysis of the progress, image, impact, convergence, and projected evolution of all communications tools.
Other current courses that could possibly be suggested by faculty in various university disciplines as having potential for futures studies:

**BIO 105: Current Issues in Biology** – most current issues in this field are tied to new developments, in areas such as genetics and nanotechnology. (This could be retitled and made more specifically a futures studies course, but it already qualifies as is.)

**BIO 112: Introductory Population Biology** – the future of evolution and ecology are closely tied to this field, and it might be considered a futures studies course. Associated course is Bio 114: Population Biology Laboratory.

**BIO 215: Diversity of Life** – This course examining the concepts of biological form and function and evolutionary relationships and diversity might also have a futures theme.

**BIO 348: Biotechnology** – How biological systems are utilized in scientific research, and the risks and rewards of this expanding field – this is futures studies-oriented content.

**BUS 414: Marketing Research** – Research and analysis methods in improving future marketing and decision-making processes. Futures-oriented.

**BUS 416: Global Marketing** – Develop an understanding of how the world is "shrinking" and understand the influence. Futures-oriented.

**ECO 421: Industrial Organization and Regulation** – Offers a critical understanding of policy and regulation. This is tremendously futures-oriented as policy is changing and in need of updating at an accelerating pace thanks to new technologies. Has a significant component that is looking ahead.

**ENG 339: American Environmental Writers** – Pays close attention to issues of environmental ethics and how insights of writers can be used to address the environmental crisis.

**ENS 310: Environmental Issues in Southeast Asia** – Practical solutions to promote sustainable development are examined. Futures-oriented.

**ENS 461: Environmental Impact Assessment and Policy Development**. Futures-oriented.


**GEO 345: Global Environmental Change** – Focuses on effects, impact of current action and projection of the future.


**PHY 411: Quantum Mechanics** – Certain aspects are futures-oriented.

**PHY 412: Relativity and Cosmology** – Discussions of dark matter, red shift and universe theory can all be futures-oriented.

**POL 141: International Relations** – Outside of studying historical aspects, this is all about how relationships will influence the future.

POL 328: Public Policy – Deals with ways in which future political structures are formed.

POL 324: U.S. Foreign Policy – Futures-oriented.

POL 343: International Law & Organizations – Certain aspects are futures-oriented.

POL 344: International Environmental Policy – Futures-oriented.

POL 345: International Terrorism – Futures-oriented.


SOC 113: Human Evolution and Adaptation – Certain aspects are futures-oriented.

SOC 331: The Self and Society – Includes impacts of increased technological developments.

In addition:

- Due to accelerating change, it is likely that some academic disciplines may begin to offer additional, focused Futures Studies electives. If this happens at Elon University, it would be of most benefit to find a way to structure these so they have some common underpinnings (all offered at the 200, 300 or 400 level, for instance) and parallel structure in course numbering and naming. These might be permanent courses or Special Topics courses offered once every two years or so. The School of Communications is now considering the addition of a discipline-specific course, and it is listed below. If more become available, these discipline-specific futures studies courses could be added as a "select one of the following" requirement for the minor in futures studies.

- The School of Education might consider adding the futures studies minor to the list of suggested concentrations or minors in its section of the Elon catalog.

- Some courses in the suggested futures studies minor would be excellent additions to other interdisciplinary minors, such as Leadership.

Suggested catalog copy:

**Futures Studies**

*Coordinator: Professor Tobe Namedlater*

The Futures Studies minor is designed to cultivate multidisciplinary interests, a willingness to adopt different ways of knowing, a global orientation, a toleration for complexity and ambiguity, a long-term perspective, a view of the future as plural and alternative rather than as singular and predictive, and the ability to imagine many different alternative futures as well as to envision preferred futures. It provides participants with a historical underpinning, education in futures scenarios and
strategic planning methodologies, ethical training, and insights regarding long-term trends.

**A minor in Futures Studies requires the following:**

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<th>Credits</th>
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<td>FUT 450</td>
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**At least one course selected from the following:**

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<td>POL 335</td>
<td>Ethics in the Public Sector</td>
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<td>COM 395</td>
<td>Media Law &amp; Ethics</td>
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<td>BUS 424</td>
<td>Responsible Leadership Communications</td>
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**At least two courses selected from the following:**

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<td>BIO 112</td>
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<td>BUS 416</td>
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<td>ECO 412</td>
<td>Industrial Organization and Regulation</td>
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<td>ENS 111</td>
<td>Introduction to Env Science and ENS 113 Lab</td>
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<td>GEO 345</td>
<td>Global and Environmental Change</td>
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<td>GST 3??</td>
<td>Futures in Popular Fiction</td>
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<td>COM 371</td>
<td>The Future of the Internet</td>
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<td>PHL 344</td>
<td>Philosophy of Science</td>
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<td>PHY 110</td>
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<td>PHY 411</td>
<td>Quantum Mechanics</td>
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<td>PHY 412</td>
<td>Relativity and Cosmology</td>
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<td>POL 141</td>
<td>International Relations</td>
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<td>POL 431</td>
<td>Policy Analysis and Program Evaluation</td>
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<td>POL 321</td>
<td>Public Opinion Polling</td>
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<td>PSY 3??</td>
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<td>SOC 343</td>
<td>Social and Cultural Change</td>
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Other courses approved by the program coordinator.

**TOTAL** 20 sh

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**Course Descriptions**

**FUT/PHL 210. Study of the Future** 4 sh

A course offering an introduction to futures studies and examining the arc of development.
in cosmology, biology, technology, economics, and other aspects of the planet and universe and how our conceptions of history and the images of the present can offer cues to the future, influencing our images of the future and effecting our future.

**SOC/ANT 450. Research Methods**

Offers an overview of methodological approaches, research methods, and imaging techniques. Covers quantitative methods, and also concentrates on quantitative methods, Delphi surveys, scenario planning, field notes, question development, interviewing, ethnographic research, content analysis, and other tools for modeling and preparing for various futures.

*Edited versions of course descriptions from other suggested possibilities:*

**SOC 343. Social and Cultural Change**

Concern for the nature and direction of modernization provides a foundation in this course. Topics include innovation, diffusion, evolution, revolution.

**ENS 111/113. Introduction to Environmental Science**

Explores the fundamental principles of the biological and physical sciences behind ecosystems and focuses on function, human impact and development of solutions. *(And 1-credit ENS 113 Lab.)*

**GST 3??. Futures in Popular Fiction**

This survey course brings together a synthesis of the influences of fiction stories, books, comics, films, television, and games on the unfolding realities of technological and social futures. From "Buck Rogers" to "Brave New World" to "Star Trek" to "The Matrix" and "I,Robot," science-fiction and cyberpunk images permeate our perceptions of the future to the point at which they sometimes become reality.

**POL 321. Public Opinion Polling**

The goal of this course is for students to learn how to supervise a public opinion poll and apply survey research theory to the Elon Poll. Students participate as interviewers in several polls and learn survey design, computer programming, analysis of poll data and how to write about survey results. Offered fall.

**PSY 3??. Human Consciousness**

Addresses in depth the idea of consciousness, and what it means to exist as a thinking being. Theories behind the study of consciousness are vital to futures of artificial life and artificial intelligence research in addition to the future of humanity.

**GEO 345. Global Environmental Change**

Focuses on effects and impact of current action and the projection of the future.

**PHL 344. Philosophy of Science**

Includes study of the structure of scientific reasoning, science in its cultural context and the logical and other elements shaping scientific change.
BIO 105. Current Issues in Biology 4 sh
Most current issues in this field are tied to new developments, in areas such as genetics and biotechnology.

BIO 112/114. Introductory Population Biology 4 sh
Introduction to organization and function at the population level including reproduction and genetics, patterns and mechanisms of evolutionary change and basic concepts of ecology. And Bio 114: Population Biology Laboratory.

BIO 215. Diversity of Life 4 sh
Examines the concepts of biological form and function and evolutionary relationships and diversity.

BIO 348. Biotechnology 4 sh
How biological systems are utilized in scientific research, and the risks and rewards of this expanding field.

BUS 414. Marketing Research 4 sh
Research and analysis methods in improving future marketing and decision-making processes.

BUS 416. Global Marketing 4 sh
Develop an understanding of how the world is "shrinking" and understand the influence.

ECO 421. Industrial Organization and Regulation 4 sh
Offers a critical understanding of policy and regulation. This is tremendously futures-oriented as policy is changing and in need of updating at an accelerating pace thanks to new technologies.

PHY 110. Energy and the Environment 4 sh
An introduction to energy concepts and the basic modes of energy production and use.

PHY 411. Quantum Mechanics 4 sh
Basic underpinnings of quantum formalism. Laboratory included.

PHY 412. Relativity and Cosmology 4 sh
Discussions of dark matter, red shift and universe theory.

POL 141. International Relations 4 sh
Gives students a basic appreciation of our world and examines political issues such as the role of power and international law in the international system and economic, social and cultural features of the world.
POL 431. Policy Analysis and Program Evaluation 4 sh
Focuses on the formulation stage of the policy process and attempts to isolate the intended and unintended effects of public policy.

COM 371. The Future of Media 4 sh
This course addresses likely development scenarios in communications media and associated transformational possibilities in the social, economic, legal, and ethical realms. Content will include analysis of the progress, image, impact, convergence, and projected evolution of all communications tools.

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