



Decennial Core Curriculum Review Committee

Final Report
August 2016

To the Faculty of the
University of Notre Dame



Core Curriculum Review Committee – 2016 Report

PREFACE: COMMITTEE CHARGE, MEMBERSHIP, AND PROCESS

Core Curriculum Review Committee

Central to undergraduate education at the University of Notre Dame is the core curriculum, a set of courses intended to provide every undergraduate with a common foundation in learning.

Because of the importance of these requirements, the University undertakes a formal review process every ten years to reassess the core curriculum's content and effectiveness.

The current process began in summer 2014, when University President John I. Jenkins, C.S.C., and University Provost Thomas G. Burish appointed a Decennial Core Curriculum Review Committee¹ to assess the current requirements, engage the University in campus-wide conversations about general education at Notre Dame, and make recommendations about possible changes to the core curriculum, if warranted.

In their [charge](#) (see the full text in Appendix A), the president and provost noted the significance of this faculty review:

Every ten years, Notre Dame reviews its core curriculum requirements precisely because these requirements signify and determine, to the best of our ability, the knowledge, dispositions, and skills every Notre Dame undergraduate student should possess upon graduation. Along with major requirements, research experiences, co- and extra-curricular activities, and residential life, the core curriculum enables Notre Dame to 'offer an unsurpassed undergraduate education that nurtures the formation of mind, body, and spirit.'

Every core curriculum committee confronts an altered educational landscape, and this committee is no different. An incomplete list of notable changes since the University's last review might include the enhanced capacity of our undergraduate students as suggested by their high school grades, advanced placement examinations, and standardized tests; a welcome increase in the diversity of our undergraduate student population, from both within and beyond the United States; more widespread use of new pedagogical techniques, some incorporating online resources; changes in the religious formation of our students before their arrival at Notre Dame; and an accelerated pace of globalization and contact with societies and cultures once thought distant from our own.

¹ At its formation, the Core Curriculum Review Committee (CCRC) chairs were Greg Crawford, then dean of the College of Science, and John McGreevy, dean of the College of Arts and Letters. In summer 2015, the president and provost appointed Michael Hildreth to serve as co-chair of the committee, replacing Greg Crawford as he stepped down from his position as dean of the College of Science. Committee members included Kasey Buckles (Department of Economics), Michael Hildreth (Department of Physics), Peter Holland (Department of Film, Television, and Theatre), Timothy Matovina (Department of Theology), Leo McWilliams (College of Engineering), Mark Roche (Department of German and Russian Languages and Literatures), Katherine Spiess (Department of Finance), John Stamper (School of Architecture), Michelle Whaley (Department of Biological Sciences), Rebecca Wingert (Department of Biological Sciences), Rev. Hugh Page (*ex officio*) (Department of Africana Studies and Department of Theology), and Rev. Robert Sullivan (*ex officio*) (Department of History). The committee was staffed by David Bailey (Office of Strategic Planning and Institutional Research), Marie Blakey (Office of the Provost), Kate Garry (College of Arts and Letters) and Matthew Zyniewicz (College of Arts and Letters).



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The committee was asked to build both on a set of [learning outcomes](#) for the undergraduate experience at Notre Dame approved by the Academic Council in 2011, and on the 2014 report of a faculty committee (led by Rev. Robert Sullivan, professor of history, and reporting through Hugh Page, vice president and associate provost for undergraduate affairs) that examined options for curricular reform and gathered data on curricular structures at other universities.

In forming the committee, the president and provost requested that the committee consider no requirement or course as exempt from review and assessment, and the committee honored that request. They also asked committee members to examine in particular the following five questions, which the committee has addressed throughout this report:

1. What knowledge, dispositions, and skills should all Notre Dame students possess upon graduation?
2. How best can these be instantiated in core curriculum requirements, and what set of organizational structures—from academic advising to the relationship between the First Year of Studies and the colleges and schools—best facilitate their acquisition by students?
3. How can our core curriculum not only sustain but also deepen our commitment to Notre Dame’s Catholic character?
4. What, if any, relationship should exist between core curriculum requirements and advanced placement examinations?
5. How do and should core curriculum requirements work in conjunction with academic major requirements?

The review charge called for the committee to be “wide-ranging in its assessment and recommendations.” To that end, the committee hosted more than 50 meetings, open forums, and information sessions on campus with faculty, students, staff, and alumni during academic year 2014-15. The committee surveyed all current students (with a response rate of 45 percent) and a selection of alumni (with a response rate of 34 percent). It also shared information and solicited feedback through its website, emails, and an online bulletin board for faculty.

After the draft report was released in November 2015, the committee engaged in additional outreach and events during the spring 2016 semester to answer questions and to solicit responses from across the University. The committee considered all of the comments and suggestions it received before preparing this final report. (For more information about the committee’s outreach and engagement activities, see the committee [website](#).)



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Committee Focus Groups and Working Groups

The Core Curriculum Review Committee established a number of focus groups and working groups to explore some significant topics that could inform deliberations about general education requirements. The groups were led by faculty from the committee and included other members of the Notre Dame faculty.

Charged to serve in an advisory capacity to the committee, the groups offered the committee regular updates. The three focus groups also prepared formal reports with more detailed information and insights for the committee’s consideration as it prepared both its draft and final reports. (The three focus group reports are available [here](#).)

- The Catholic Mission Focus Group² considered how the University can “not only sustain but also deepen our commitment to Notre Dame’s Catholic character” through the core.
- The Academic Advising Focus Group³ examined current advising structures (within First Year of Studies, colleges, schools, departments, and other units across campus). It also explored how the University can further assist students as they engage the core curriculum, discern their courses of study, and achieve the goals of their undergraduate programs.
- The Advanced Placement Focus Group⁴ examined the use of Advanced Placement (AP) credit at Notre Dame and at select peer institutions and then considered whether and to what extent Notre Dame should accept AP credits in its core curriculum.

² Membership of the Catholic Mission Focus Group included Chair and CCRC member Mark Roche (Department of German and Russian Languages and Literatures), Susan Collins (Department of Political Science), CCRC member Peter Holland (Department of Film, Television, and Theatre, and Department of English), CCRC member Timothy Matovina (Department of Theology), Edward Maginn (Department of Chemical and Biomolecular Engineering), Mark McKenna (Notre Dame Law School), Christian Smith (Department of Sociology), Jeff Speaks (Department of Philosophy), Ann Tenbrunsel (Department of Management), Thomas Tweed (Department of American Studies), and CCRC member Rebecca Wingert (Department of Biological Sciences).

³ Membership of the Academic Advising Focus Group included Chair and CCRC member Michael Hildreth (Department of Physics), James Foster (College of Science), Daniel Graff (Department of History), Holly Martin (First Year of Studies), Collin Meissner (College of Arts and Letters), Catherine Pieronek (College of Engineering), Michael Ryan (College of Engineering), CCRC member Katherine Spiess (Department of Finance), CCRC member John Stamper (School of Architecture), and CCRC member Michelle Whaley (Department of Biological Sciences).

⁴ Membership of the Advanced Placement Focus Group included: Chair and CCRC member Kasey Buckles (Department of Economics), CCRC member David Bailey *ex-officio* (Office of Strategic Planning and Institutional Research), Donald Bishop *ex-officio* (Undergraduate Enrollment, Enrollment Division), JoAnn DellaNeve (Department of Romance Languages and Literatures), CCRC member Leo McWilliams (College of Engineering), Annette Pilkington (Department of Applied and Computational Mathematics and Statistics), and Joseph Stanfiel (College of Arts and Letters).



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Three smaller working groups were also formed in spring 2015 as the committee began to focus deeply on particular topics.

- The Integration Courses Working Group⁵ reviewed courses at Notre Dame and other universities to identify possible criteria for developing new “integrative” courses that would bring together two or more academic disciplines to address pressing issues or enduring questions.
- The Writing Working Group⁶ looked at new or improved ways in which undergraduate students’ writing skills can be most effectively developed.
- The Major Credits Working Group⁷ examined best practices at Notre Dame and peer institutions for setting limits on the number of courses that can be required by an individual major, school, or college.

I. A CATHOLIC LIBERAL ARTS EDUCATION

Many excellent universities and colleges begin assessments of their curricula and the undergraduate educational experience with uncertainty as to the underlying purposes of that education and that experience. But even as Notre Dame has become more diverse, welcoming students and faculty from many different religious traditions, the aspiration for a superb Catholic liberal arts education appears more widely shared than ever by University faculty, students, and alumni.

This unity of purpose should remind and encourage us that we begin our process of core curricular assessment and improvement with notable advantages.

The committee saw its primary task as discerning ways in which we can further advance this shared vision. In his 1990 apostolic constitution, *Ex Corde Ecclesiae*, St. John Paul II urged “continuous renewal” upon Catholic universities—both as “University” and as “Catholic”—and

⁵ Membership of the Integration Courses Working Group included Chair and CCRC member Katherine Spiess (Department of Finance), Rebecca Wingert (Department of Biological Sciences), and CCRC member Michael Hildreth (Department of Physics).

⁶ Membership of the Writing Working Group included Chair and CCRC member Kasey Buckles (Department of Economics), Steve Fallon (Program of Liberal Studies and Department of English), and Robert Goulding (Program of Liberal Studies and Department of History).

⁷ Membership of the Major Credits Working Group included Chair and CCRC member John McGreevy (College of Arts and Letters dean), Peter Kilpatrick (College of Engineering dean), and Yih-Fang Huang (Department of Electrical Engineering).



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this warning against complacency seems to us even more prescient a quarter century later.⁸ In response, this committee recommends: a renewed commitment to distinctively Catholic dimensions within the liberal arts, an enhanced commitment to a broad liberal arts education, and the introduction of curricular innovations that foster the integration of disciplines.

A Distinctive Core

President Jenkins and Provost Burish urged the committee to not only sustain but also deepen the distinctively Catholic elements of Notre Dame’s vision of the liberal arts.

What might deepening mean? Four aspects of the Catholic liberal arts tradition seem to us relevant. They are the search for the unity of knowledge across disciplines, the prominence of philosophy and theology, an ethos deriving from Catholic social thought centered on promotion of the common good, and the intellectual resources of a religious and cultural tradition stretching back to the first Christian communities and now unparalleled in its global reach.

Consistent with a belief in the unity of knowledge across academic disciplines, Notre Dame’s core curriculum should help students learn the various methods scholars have developed to examine the world and humanity. Notre Dame’s character as a Catholic academic community in fact presupposes that no genuine search for truth is alien to the life of faith; all academic disciplines explore knowledge that can disclose God. In this sense, all faculty contribute to Notre Dame’s Catholic mission whether or not they make explicit reference to Catholicism in their research or teaching. Teaching literature as literature, chemistry as chemistry, and finance as finance is essential. The intellectual experiences these disciplines provide are not an add-on to Catholic education but an essential component of the search for the order of knowledge.

This conviction of the unity of knowledge should lead to integration, the sense that faculty and students in all the areas of inquiry proper to a research university are engaged in a common endeavor. In its universality Catholicism has preserved and enriched the classical idea that truth is ultimately one, challenging us to respect the methods and findings of the diverse branches of human knowledge while also seeking to integrate their respective discoveries and insights. As Pope Francis has recently written, “Dialogue among the various sciences is ... needed, since each can tend to become enclosed in its own language, while specialization leads to a certain isolation and the absolutization of its own field of knowledge.”⁹

As central threads in the Catholic intellectual tradition, theology and philosophy have played and should continue to play a central and integrative role in Notre Dame’s core curriculum. Theology integrates academic inquiry through its disciplined reflection on ultimate questions. It achieves

⁸ *Ex Corde Ecclesiae* (1990), §7.

⁹ *Laudato Si'*, no. 201.



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this from the perspective of God’s self-disclosure, particularly as known through the Hebrew and Christian Scriptures and their reception and interpretation in the Tradition of the Church. In placing theology at the core of its Catholic liberal arts education, Notre Dame is not merely adding another discipline to the existing educational paradigm. Rather, it embraces a paradigm of the intellectual life that posits the complementarity of faith and reason.

Catholicism has always elevated reason and thus endorses the enduring value of philosophy, which brings reason to bear on issues beyond the resources of empirical disciplines, matters such as the existence and nature of God, the destiny of human persons, the actuality of free will, the nature and scope of knowledge, and the centrality of ethics. The examination of such questions makes philosophy a necessary partner in the quest for the integration of knowledge across disciplines. Philosophy is furthermore a partner as it helps our students become acquainted with, and able to address, the intellectual challenges raised for theism in an increasingly secular culture.

The educational mission of the Congregation of Holy Cross has consistently emphasized the importance of preparing “citizens for society” as well as “citizens for heaven.”¹⁰ This impulse derives from an underlying commitment to the dignity of the human person and is echoed in *Ex Corde Ecclesiae*, where St. John Paul II writes that a Catholic university is called to study contemporary problems ranging from “the dignity of human life and the promotion of justice for all” to a more equitable “sharing in the world’s resources.”¹¹

Finally, Notre Dame’s mission statement has long recognized that Notre Dame should be a place where “the various lines of Catholic thought may intersect with all the forms of knowledge found in the arts, sciences, professions, and every other area of human scholarship and creativity.” The University’s hiring strategies and investments to build faculty strength in intellectual areas consonant with the traditions of Catholicism—from Dante to global health, from impact investing to sustainable urbanism, from Hebrew Bible to Latino/a studies—reflect a remarkable institutional commitment, one that should have more resonance in core curriculum requirements.

A Liberal Arts Framework

The process of core curricular renewal at Notre Dame is also an opportunity to enhance our commitment to a broad education in the liberal arts.¹² Here the committee again found widespread agreement, even unanimity, with faculty and students from all colleges and schools convinced that deep engagement with the liberal arts best prepares students for life after Notre Dame.

¹⁰ Basil Moreau, Circular Letter 34 [1848] in *Basil Moreau: Essential Writings*, Kevin Grove C.S.C. and Andrew Gawrych C.S.C. eds. (Notre Dame 2014), 417.

¹¹ *Ex Corde Ecclesiae* (1990), §32.

¹² For an extended reflection on the value of an education in the liberal arts, Mark William Roche, *Why Choose the Liberal Arts?* (Notre Dame, 2010).



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Compared to its peers, Notre Dame is at the high end in terms of liberal arts requirements. This is in part because we require theology and philosophy, which are usually not required elsewhere, and in part because we believe that students who have a wide range of intellectual capacities are better equipped to make a difference in the world. Students immersed in multiple ways of knowing are more likely to discern their own intellectual interests and to develop the attitude that they can approach any problem in the historical or contemporary world with a range of appropriate perspectives, questions, and analytical skills. In this sense students learn how to educate themselves.

Within the Notre Dame community, we discovered, the merits of a broad-based liberal arts education understood in this way need little rehearsal. But these merits understandably require articulation given current discussion of the high cost of college education (including at Notre Dame) and the unpredictable employment market facing college graduates.

The primary merit of a liberal arts education is to develop in students capacities that will help them flourish throughout their lives. These include listening attentively, thinking clearly, and communicating persuasively; uncovering flaws in assumptions and arguments; formulating meaningful questions; weighing contradictory and disparate evidence; and recognizing what is of greater and lesser value. Students educated in the liberal arts should be comfortable in the world of science and quantitative data as well as in the arts and humanities. They should not simply learn facts but cultivate creativity and analytical skills. They should explore the histories, development, and identities of people geographically and culturally distant from themselves and formulate both a sympathetic and critical understanding of difference.

These capacities should lead to professional success beyond college. And at Notre Dame the placement record is noteworthy for students from all fields of study moving into the labor market, applying to graduate and professional schools, or engaging in full-time service before entering the worlds of work and graduate training.¹³

Still, a liberal arts education—what Blessed John Henry Newman termed “cultivation of mind”—should lift horizons even further. It presumes that knowledge is worth pursuing for its own sake.¹⁴ For students, the intrinsic value of learning manifests itself in their engagement both with focused disciplinary questions and with broader issues, such as what does it mean to be human, what is the meaning of suffering, and what are the most pressing moral obligations of their generation.

At a Catholic university in particular we hope to enable students to satisfy their deepest hunger for meaning and purpose. This sense of purpose develops in the University’s residence halls, campus ministry, extracurricular activities, and community service. But it is also advanced in the

¹³ See <http://careercenter.nd.edu/students/success-stories-data/first-destination/>.

¹⁴ John Henry Newman, *The Idea of A University*, (Notre Dame, [1853] 1982), 86.



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classroom, where virtues in the pursuit of truth can be cultivated, including humility concerning one’s own knowledge, perseverance in pursuing multiple intellectual paths, and justice in listening to alternative views.

In this broadest sense our challenge is to prepare students not simply for careers but for the challenges and rewards inherent to living good lives.

Ways of Knowing

In framing our understanding of the elements that characterize a Catholic liberal arts education, we acknowledge that the standard components of an American liberal arts education are evolving, much as their current form unfolded over the centuries from roots in the classical and medieval trivium and quadrivium. New areas of scholarship and inquiry argue for a curriculum based not merely on facts to be absorbed but also on various modes of thought that allow faculty and students to explore the world around them.

Throughout this final report, we refer to this as the “ways of knowing” approach to the core curriculum. As discussed below and later in the report, we have chosen nine ways of knowing as a basis for the organization of the core curriculum. Each of these represents an important modality for approaching, analyzing, and understanding different aspects of our lives and our world. As such, each represents an important ingredient in a liberal arts education and an important line of study for our students.

These different ways of knowing are often aligned with traditional academic disciplines. It is implicit, however, in a “ways of knowing” approach that a given discipline may not be the sole vehicle for understanding a particular mode of thought. For example, methods of quantitative reasoning are used in many areas of science and the social sciences outside of pure mathematics. To evaluate whether any particular course appropriately reflects and transmits the attributes of a given way of knowing, the course should include an exploration of material organized around the particular mode of thought and have relevant learning goals and outcomes for students. The syllabus for a core course that represents a way of knowing should clearly state how that course meets the appropriate learning goals.

The existing core curriculum does include learning goals—often well written and thorough—for each disciplinary area covered. But in our discussions we found few students or faculty aware of them. Some core courses are taught with little idea of how they fit into the overall core. This leaves students with an impression of the current core curriculum as a series of disjointed requirements. In too many cases, students with whom we spoke framed their understanding of general education courses around a simple but discouraging question: How many boxes—math, science, history, philosophy, etc.—do I need to check in order to graduate from Notre Dame?



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We know that students everywhere tend to think of general education as checking off boxes of compartmentalized courses. But our aspiration is higher. Framing a suite of general education courses around ways of knowing with distinct learning goals can foster more engagement on the part of students selecting courses. This shift from “what do I have to take” to “what might I learn” encourages greater student ownership of their education.

Our hope is that the mindset of students—as well as of faculty and advisors—can become less focused on the “box checking” needed to move to graduation and more focused on the diverse learning goals embodied in each core requirement. This represents a shift toward student-centered learning, fostering the active engagement in the learning process that has been shown to lead to better educational outcomes.

With appropriately constructed learning goals, each of the core courses will contribute key components to the aggregate experience that will become students’ Catholic liberal arts education at Notre Dame. Each course forms a complementary part of the larger whole, bringing individual students closer to attaining the intellectual capacities and practices that fulfill the overall goals of a Notre Dame education.

Having affirmed that a student-centered “ways of knowing” approach tied to learning goals should serve as a basis for Notre Dame’s general education, the committee again examined the course requirements of the current core curriculum. An additional list of more than a dozen new proposed requirements offered by faculty across campus was also considered. This work of evaluating the appropriateness and placement of potential core requirements constituted much of the committee’s labor during the 2014-15 and 2015-16 academic years.

This recommended approach to the core represents a partial departure from the existing structure of the core curriculum, where individual departments control many core courses. Yet the core already includes a number of required courses that are shared by faculty in more than one department (including the University Seminar and core requirements in history, literature, the arts, the natural sciences, and the social sciences). Building on this foundation, the committee concluded that opening more of the core curriculum to departments and faculty across the University who are experts in particular ways of knowing would allow a more dynamic and integrated educational experience.

We now turn to a brief history of the core curriculum at Notre Dame, what we gathered from surveys and meetings with faculty, students, and alumni, and, finally, to our curricular recommendations.



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II. CORE CURRICULUM DEVELOPMENT

Notre Dame's History

The version of a Catholic liberal arts education instantiated in the current core curriculum did not, unsurprisingly, exist fully formed at the moment of the University's founding by priests and brothers of the Congregation of Holy Cross in 1842. At that time, and into the early 20th century, students typically followed a required course sequence primarily focused on the reading of Latin and, occasionally, Greek texts, supplemented by philosophy courses, a smattering of what we would call liberal arts courses, and vocational tracks ranging from bookkeeping to journalism to pharmacy. Men—boys, really—were admitted to what was in effect a boarding school, and the distinction between high school and college remained hazy. The pattern was much the same at other Catholic colleges across the country; indeed, Notre Dame modeled its curriculum on that of nearby Jesuit institutions.¹⁵

In the early 20th century, following a pattern set by secular institutions and encouraged by the first regional accrediting agencies, once alien concepts such as “majors” and “credit hours” began to structure the undergraduate experience. Since that time, Notre Dame has never had an undergraduate core curriculum in the strictest sense. No single set of courses with common syllabi has been required of all students. Instead, every undergraduate fulfills general education distribution requirements spread across the traditional liberal arts and sciences.

The most consequential changes to these distribution requirements occurred in the 1960s as Notre Dame became a major research university and absorbed the documents of the Second Vatican Council. These changes included a reduction in required philosophy courses from six to two as the influence of a particular version of Thomistic philosophy waned in Catholic intellectual life. Math courses were reorganized as well, with most students taking a year of calculus. Required theology courses for all students were also introduced for the first time, since for most of the University's history the subject of theology in a disciplinary sense had been thought suitable only for students enrolled in seminary.¹⁶

¹⁵ The authoritative source on the history of Catholic higher education in the United States is Philip Gleason, *Contending with Modernity: Catholic Higher Education in the Twentieth Century*, (New York, 1995), esp. 46-51. On Notre Dame, Robert E. Burns, *Being Catholic: Being American: The Notre Dame Story, 1842-1934*, Volume 1 (Notre Dame, 1999), 103-134; Arthur J. Hope, C.S.C., *Notre Dame: One Hundred Years*, rev. ed. (Notre Dame, 1948), esp. 269-271; Rev. John Lenoue, “The Historical Development of the Curriculum at Notre Dame,” (University of Notre Dame, MA thesis, 1933), esp. 72-80; Philip S. Moore, C.S.C., “Academic Development: University of Notre Dame: Past, Present, Future,” (n.p. 1960).

¹⁶ The University bulletins are revealing in regard to the oscillating fortunes of particular requirements. For example, in the late 1960s non-Catholic students were exempted from all theology courses (a policy which our committee would not endorse) and students in engineering took fewer theology courses than other students. See, as a sampling, “University of Notre Dame: The General Bulletin” (Notre Dame, 1968), Engineering section, p. 13; “Bulletin of Information: College of Arts and Letters, 1973-1975” (Notre Dame, 1973), 21-26.



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By 1970, the current core curriculum was essentially in place. Remarkably, or perhaps unremarkably when one considers the challenge of making changes to a complex curricular system, almost no changes in the distribution of courses have occurred over the past 46 years. More modest changes have included the addition of the University Seminar in 1996 and the two-semester Moreau First Year Experience Course, which replaced physical education classes in 2015 and which has not been considered in this report due to its early stage of development. Notre Dame alumni of, say, the class of 1973 need no translators to discuss core curriculum requirements fluently if they have grandchildren enrolled at Notre Dame today.

Notre Dame's current core curriculum includes the following course requirements:

- Mathematics*: two courses
- Science*: two courses
- Fine Arts* or Literature*: one course
- History*: one course
- Social Sciences*: one course
- Theology*: two courses
- Philosophy*: two courses
- Writing and Rhetoric: one course
- University Seminar: a writing-intensive course in one of the disciplines marked (*) above
- Moreau First Year Experience: one (two-semester) course

(Descriptions of which courses meet these current requirements are available [online](#).)

Requests for Curricular Innovation

To imagine how we might better fulfill our vision of providing students with a Catholic liberal arts education, the committee attempted to identify key challenges—and opportunities—now facing the University. This work included widespread consultation with faculty, research into the practices of peer institutions, and both meetings and formal surveys with students and alumni. This outreach and research necessarily uncovered diverse viewpoints on what (if anything) could and should be done to improve the general education Notre Dame provides. But some consistent themes about the current core did emerge.

The first and perhaps most fundamental is appreciation for the undergraduate education at Notre Dame in its various facets, including the core curriculum. Again, support for a Catholic liberal arts framework is virtually unanimous. And while teasing out the distinction between sympathy for the core curriculum and enthusiasm for education at Notre Dame more generally is difficult, most undergraduates and alumni (more than 90 percent) report themselves “highly satisfied” with their educational experience.



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Simultaneously, compelling calls for reform also emerged.

- **Appropriate Intellectual Challenge**

One of the most powerful requests for improvement came from students and faculty who desire increased intellectual challenge in the first year, which currently includes numerous courses in the core. Some of these core courses are already rigorous, and students in all colleges and from all backgrounds find them challenging; this was evident in the results from our student and alumni surveys. Still, a disconcerting number of students described the first-year curriculum at Notre Dame as insufficiently differentiated from their experience as seniors in high school. Many students noted, with regret, that Notre Dame instructors occasionally used the same textbooks or covered the same material these students had studied in high school. While this may signal that some Notre Dame students are thoroughly prepared, the committee took from these comments a need to ensure that core courses are appropriately challenging for students of all levels. The committee was unanimous in wanting to see changes designed to avoid any such repetition of previous material.

Student sentiments about insufficient intellectual challenge in core courses may stem from the increasingly sophisticated preparation of Notre Dame's undergraduate students. Whether measured by SAT and ACT scores, grades, or AP courses taken, Notre Dame's student body is now one of the most selective in the nation and admission to the University is considerably more difficult than at the creation of the current core in 1969. Many students now enter Notre Dame having taken courses, such as AP Calculus, that would have been understood as advanced college courses in the 1960s. Recent changes are especially dramatic: The entering qualifications of the average admitted student for the class of 2020 are more impressive, at least as measured by class rank and standardized test scores, than the qualifications of the top quartile of students admitted even just a few years ago.

Our conviction as a committee is that students at all levels need to be placed in appropriately challenging first-year and core courses. Depending on each student's preparedness, this can mean more advanced courses in one subject area and less advanced courses in another. This advising challenge is heightened by the fact that students who struggle in introductory courses may also be less likely to recognize or express their needs.

- **Increased Flexibility**

A second and linked concern—again heard from all constituencies—is an absence of flexibility, especially in the first-year curriculum. Here the survey data are revealing. Among current enrolled students, 69 percent “agree” (35 percent) or “strongly agree” (34 percent) with the statement, “Having more flexibility in fulfilling core requirements would provide students with a stronger education.” Among alumni surveyed, 36 percent agree and 16 percent strongly agree.



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Flexibility is not always desirable; every member of the committee can recall courses taken out of obligation that ignited new intellectual interests. Still, Notre Dame’s core curriculum requirements of 12 courses are extensive when compared to peers, and Notre Dame students have either been encouraged or required to take most core classes in the first year. The result is that too many students see the first year less as an exploratory period in which to try out possible majors than a list of requirements to endure before being able to take courses in their primary area of interest.

Given current structures, it is routine for many students not to take classes in their direct areas of academic interest until the sophomore year. In addition to the pre-requisites for their major, where required, incoming students are also often slotted into required core courses—notably in philosophy and theology—even if those courses might be more wisely chosen in the junior and senior years. If students study abroad in their junior year, as approximately half of Notre Dame students do, the experience within their academic major and department can be limited to five semesters.

A related problem is the course scheduling difficulty that many students face throughout their entire Notre Dame undergraduate experience. Students—especially those enrolled in laboratory science and engineering courses but in other courses of study as well—repeatedly express frustration at the absence of variety in the required courses available or the limited offerings in their only open time slots.

- **More Integration**

A third concern and call for change centers around what many students and faculty believe is an absence of integration of topics across the curriculum. Most Notre Dame students do not become college professors. Yet students often experience the core curriculum as a series of introductory courses to disciplines that help organize the world of academic knowledge but do not provide an integrated approach to the pressing issues and enduring questions students will grapple with after graduation. From this perspective, these core courses, however well taught, do not serve general education purposes beyond replicating traditional divisions of knowledge and providing a glimpse of what might be studied in particular majors.

The committee recognized the need for more intellectual integration as a challenge that faces any university’s system of distribution requirements. The disciplinary organization of knowledge is fundamental to the flourishing of faculty and students; it serves many functions vital to research activities, graduate education, and undergraduate majors, particularly providing specialized knowledge in advanced courses. And the committee applauds the deepening of intensity in many majors across campus over the last decade, demonstrated in part by a stronger focus on undergraduate research and senior projects or theses.



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Still, the committee judged the curricular goals of general education as existing in a reciprocal relationship with more focused intellectual effort within majors, not in imitation of them.¹⁷ The absence of sustained efforts to bridge disciplines within general education courses at Notre Dame seemed to the committee a regrettable example of the intellectual divisions characteristic of the modern research university. As important as they are, the current organization of the disciplines, from classics to chemistry, is in many ways an artifact of the late 19th century. A Catholic university can take a longer, more capacious view.¹⁸ The committee's hope is that a revitalization of the core curriculum will allow us to reimagine the core in this more expansive context.

III. CORE CURRICULUM RECOMMENDATIONS

Proposed Requirements

Building on a vision of the Catholic liberal arts, Notre Dame's own mission and history, the reflections of our faculty, students, and alumni, and the University's existing structures and practices, the committee recommends a new structure for general education requirements at Notre Dame.

In the proposed structure, six courses would be required in the general liberal arts, with more student choice than at present and with the new option of an Integration course. Four courses would be required in the explicitly Catholic dimensions of the liberal arts, with the new option of a Catholicism and the Disciplines (CAD) course. Finally, to enhance students' writing skills, the core would include a second required writing course for all students, including those who test out of the Writing and Rhetoric course.

Each proposed requirement, listed on the next page, is also described in greater detail in the next section of this report.

¹⁷ On this point, Alasdair MacIntyre, "Catholic Universities: Dangers, Hopes, Choices," in *Higher Learning & Catholic Traditions*, Robert E. Sullivan, ed. (Notre Dame, 2001), 1-21.

¹⁸ On the organization of the disciplines, James Turner, *Philology: The Forgotten Origins of the Modern Humanities*, (Princeton, 2014).



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Six courses in the general liberal arts

- Liberal Arts 1, 2, and 3: one course in the quantitative reasoning category, one course in the science and technology category, and a third course chosen from either the quantitative reasoning category or the science and technology category
- Liberal Arts 4, 5, and 6: one course in the category of art, literature, or advanced language and culture; one course in the history or social science category; and one Integration course or a course in a way of knowing not yet chosen from category 4 or 5

Four courses exploring explicitly Catholic dimensions of the liberal arts

- Theology 1 and 2: a foundational course and a developmental course
- Philosophy 1: an introductory course
- Philosophy 2 or CAD: an additional philosophy course or a Catholicism and the Disciplines course

Two courses in writing

- Writing 1: a University Seminar
- Writing 2: the Writing and Rhetoric course or, based on AP score, another writing-intensive course taken in the core, in the student's major, or as an elective (this required course can be a second University Seminar)

Moreau First Year Experience Course

- one (two-semester) course taken in the student's first year

Five additional notes:

1. A strong majority of committee members recommended that we eliminate using Advanced Placement scores to test out of core requirements. Approximately 25 percent of students enrolled in the College of Arts and Letters and in the College of Business now use AP scores to test out of math and/or science requirements, for example, and the committee believes that these students should explore these ways of knowing in a college environment. (We discuss Advanced Placement and the committee's recommendation about AP credit in more detail on pages 31–32.)
2. As described below, the committee also recommends that every major program should allow for at least three elective courses—not limited to courses in the particular student's department or college—over a four-year course schedule for students who enter Notre Dame without any advanced placement or course credit.
3. The committee recognizes and welcomes the fact that adopting these changes may prompt individual colleges and schools to review and reassess the courses they require of their students. Even now, some college requirements for graduation—such as the literature or fine arts course required of College of Arts and Letters students, and the social science



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courses required of College of Business students—supplement and enhance existing University requirements.

4. While the committee recommends that no single core course should double count for two core requirements—other than the University Seminars and core writing-intensive courses—it encourages colleges, schools, and departments to double count courses taken in the core so that they can also fulfill college, school, and major requirements. It also encourages colleges and schools to be even more generous with their respective double-count policies so as to facilitate students completing cross-college/school programs.

5. The University installed the Moreau First Year Experience course in academic year 2015-2016, independent of the Core Curriculum Review Committee's work. The committee decided not to do a review of the course in its initial iteration but recommends a thorough review within five years, well in advance of the next core curriculum review.

The new core curriculum recommended by the committee is also illustrated in the chart on the following page.

The Notre Dame Core Curriculum: A Proposal

Six Courses in the General Liberal Arts

Liberal Arts 1:
quantitative reasoning

Liberal Arts 2:
science and technology

Liberal Arts 3:
quantitative reasoning or
science and technology

Liberal Arts 4:
art, literature, or advanced
language and culture

Liberal Arts 5:
history or social science

Liberal Arts 6:
Integration or way of knowing
not yet chosen from 4 or 5

Four Courses Exploring Explicitly Catholic Dimensions of the Liberal Arts

Theology 1:
foundational

Theology 2:
developmental

Philosophy 1:
introductory

Philosophy 2 or CAD:
philosophy or Catholicism
and the Disciplines

Two Courses in Writing

Writing 1:

University Seminar

Writing 2:

Writing and Rhetoric or other
writing-intensive course

Moreau 1st Year Experience

Moreau:

one two-semester course



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IV. CORE WAYS OF KNOWING

The following descriptions present a basic overview of the rationale for each element of the proposed core curriculum. Foundational themes are outlined for each way of knowing. The learning goals are necessarily provisional. Should there be support for the general concepts sketched below, we envision the formation of working groups composed of relevant faculty from multiple departments to draft detailed goals working in conjunction with the faculty-led oversight committee described on page 35 of this report.

- **Quantitative Reasoning**

Mathematics is one of the great achievements of the human mind, and applications of mathematics pervade today's society. Quantitative reasoning is widely used, for example, to justify data-based decisions, encode and protect information, manage the treatment of disease, provide a unified understanding of the forces of nature, and formulate government and international policies. As such, it represents several distinct modes of thinking, which can broadly be classified as analysis, logic, probability and statistics, and modeling. From each of these derive techniques that are applicable to specific classes of problems. Often, a combination of different quantitative techniques is necessary to approach specific situations.

Students completing courses that satisfy the quantitative reasoning requirement should have been exposed to multiple aspects of quantitative reasoning. For example, they should learn how to use deductive reasoning in problem solving, apply the inductive process to draw conclusions through quantitative analysis, evaluate data and think probabilistically, assess the strength of numerical evidence, and model complex processes or systems to be able to predict (or change) their outcomes. In short, the main objective of courses that satisfy the quantitative reasoning requirement is for students to engage in multiple mathematical ways of thinking that will enhance their ability to make informed decisions as citizens and as potential leaders.

The current two-course requirement in math is usually fulfilled by students taking two courses in calculus, and we recognize that most students at Notre Dame will continue to take calculus to fulfill the requirements of various major programs in the College of Engineering, the College of Science, the School of Architecture, and majors such as economics in the College of Arts and Letters. Calculus courses would of course also fulfill the new quantitative reasoning requirement. We thought it important, however, to allow students not in these major programs to have the option of satisfying the quantitative reasoning requirement through, for example, courses in statistics or computational analysis, or other quantitative courses that achieve the stated learning goals.

As outlined here, the proposed Quantitative Reasoning requirement represents perhaps the largest departure from the familiar categories of the current core curriculum. Those responsible for



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curating the existing Mathematics requirement and others around the University were justifiably concerned as to what form this requirement might take. To provide an answer, a University-wide committee was convened comprised of professors in many disciplines who include intensive quantitative content in their courses. Together they proposed a set of learning goals and requirements for courses that would satisfy the Quantitative Reasoning requirement. A description of their deliberations and the learning goals themselves are presented in Appendix B of this report.

- **Science and Technology**

Courses in the science and technology category should educate students to become questioning, critical thinkers by teaching them the thought processes with which scientists, engineers, and other inventors view the world.

Science plays a central role in the attempt to answer many of the deepest questions pondered by humans throughout history. Scientific reasoning is central to understanding the workings of the human mind, the nature of the universe, and a vast array of contemporary challenges. Technology, in turn, translates basic scientific knowledge into vital tools, products, and processes. As citizens, our graduates will be faced with making personal and policy decisions that will require the ability to understand and synthesize information and evidence, the discernment of limitations of current scientific understanding or technical resources, and the ability to analytically evaluate competing claims, approaches, or policies.

All areas of science share the common goal of building a body of knowledge based on observation, experiment, and evidence. It is inherent to science that current explanations are open to scrutiny; scientific and technical knowledge are both continually refined and changed as new evidence comes to light. Science and technology, however, are richer than a simple application or exposition of the scientific method. The study of life and its origins as well as how organisms adapt to and change their environments and how they can be affected by such things as disease leads one to a corpus of knowledge and a set of experimental techniques that elucidate this area of science. These ideas are far removed, though, from the concepts and experimental techniques used to study physical systems such as the origin of the universe, the fundamental particles and their interactions, superconductivity, or earth's climate. Science and technology as a whole thus represent multiple ways of knowing, each with a fundamental basis in applications of the scientific method.

- **Art and Literature**

To help students develop their creativity and ability to innovate as they pursue their intellectual interests, it is important to consider how literature, the arts, and other forms of artistic and aesthetic expression create distinct ways of knowing. These ways of knowing are various and



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include how artists interact with their media as well as how all of us can develop the critical skills necessary to understand a work of art, its production, and its reception.

Beyond the classroom, being able to approach works of art in any form and understand something of their place and role in a culture is essential to developing a lifelong appreciation of the arts and to supporting the richness they bring to human society.

Courses that satisfy the art and literature requirement may well include creative practice. Certainly, they should always include the critical analysis of others' creative practice to enable students to develop the analytical tools to recognize a work's formal dimensions and its ideas as well as the often complex interaction between the two. Engagement with artworks will also lead students to reflect on how aesthetic forms of expression help us define ourselves and our world. Analysis of a work of art, be it through its production, through careful interpretation of the work, or through its reception, should lead students to a deeper reflection on how art and society interact, and how artistic expression reflects the position of the artist and the individual with respect to society at large.

Courses in literature, the arts—from painting to film to architecture—and other possible subjects could all serve to satisfy these learning goals.

- **Advanced Language and Culture**

The intrinsic advantages of foreign language study are numerous and arguably more vital than ever in our increasingly globalized and multicultural world. Catholicism, too, is among the world's most multilingual traditions.¹⁹ In the university setting, nothing deepens acquisition of linguistic and cultural fluency more than studying texts in the original language in a community of language learners. Exposure to literature, culture, thought, and political discourse in the original language of expression lends both an invaluable insight into the belief patterns of different cultures and a deepening understanding of those beliefs and traditions.

Extensive reading, writing, and speaking in a different language requires students to place themselves into the idiom of the underlying culture and its way of thought. Through this intensive engagement with words and ideas, students gain a new perspective on differences of culture and thought, and, ultimately, on their place in a diverse world.

¹⁹ The committee discussed requiring foreign language competency for all Notre Dame students—as opposed to the current foreign language requirement for students enrolled in the College of Arts and Letters and the College of Science—and opinion on the subject was divided. Ultimately, the committee decided not to recommend a University requirement in a foreign language given the importance of enhancing student flexibility. Some students not required to take a language at Notre Dame—221 students in the 2015 spring semester, for example—do so already, and options for studying language outside formal classroom instruction are proliferating.



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The option to satisfy a core requirement in advanced language and culture should be open to students who have passed through intermediate language and culture courses and are able to take advanced courses at or above the 30000 level. These courses would involve work taught in the target language, with attention both to continuing development of language competency and to engagement with cultural content.

- **History**

History is a way of knowing that develops students' ability to understand and explain the interaction of continuity and change over time by using historical methods. In particular, this includes applying knowledge of contexts to study specific evidence in order to investigate and make intelligible particular topics from the human past. Courses in history should contain the following six dimensions of inquiry: temporal, contextual, analytical, rhetorical, geographical, and human.

Through the engagement of these six elements, students will come to appreciate the temporal extent and evolution of historical activities, the importance of context to all historical interpretation, the complexities of analyzing primary sources, the necessity of appreciating the evolution of language and rhetoric in historical narrative, the conditioning aspects of geography, and the role of individuals in determining the course of history. Through studies in history, students should be able to grasp the process of describing an event, process, or issue while considering all of the different forces and contexts that guided or influenced its unfolding. An understanding of history should lead to a deeper understanding of the problems facing contemporary society.

Courses in the history category may be taught in disciplines outside history; classics and American studies are obvious homes for such courses.

- **Social Science**

Social science is the study of society and individuals' relationships to that society and to one another, with a focus on how and why human activities vary over time or across cultures. In the social sciences, students discover the diversity of the human experience, the complexity of the choices facing human beings, and the potential consequences of the paths people take. This discovery helps students to become better citizens and people and prepares them to engage thoughtfully with others in all aspects of life.

Social science is empirical, meaning that observed patterns can be explained, and perhaps predicted. Social scientific knowledge changes by progressive refinement of pre-existing ideas, explanations, and theories, all informed by the collection and analysis of new data. The disciplines constituting the social sciences all examine dimensions of human activity but differ in emphasis,



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content, and the relevance of certain dimensions. Nevertheless, the disciplines are interdependent, and understanding the connections among the disciplines allows for better understanding of the central issues within each.

Courses that satisfy this requirement will introduce students to the diversity and complexities of various societies in the world and the research methods by which questions about human behavior and human interactions can be analyzed.

This requirement could be satisfied by courses in disciplines such as anthropology, economics, political science, psychology, and sociology, and by social-scientific courses taught by faculty from the Law School or the Mendoza College of Business.

- **Integration**

Students and faculty expressed a desire for increased integration in the curriculum. The virtues of multidisciplinary integration are helpfully outlined in *Ex Corde Ecclesiae* as the aim of bringing “various disciplines” into dialogue for “mutual enhancement.”²⁰

During the committee’s outreach in academic year 2014-15, a number of possible topics for integrative courses were suggested by—and received strong support from—faculty and students. The most prominent of these was a proposal for a University requirement on environmental issues, provoked by the global climate crisis and anticipating Pope Francis’s recent encyclical, *Laudato Si’*. Other faculty proposed compelling ideas for courses on human development and poverty, diversity, an enhancement of community-based learning, and other topics.

The committee found these proposals inspiring. Many resonate with the University’s highest ideals, and other proposals could well be imagined. Indeed, integrative courses on sustainability (taught by a literature scholar and a chemist) and Irish history and culture (taught by an archaeologist, a literature scholar, and a historian) have already drawn significant student enrollments.

After discussion, the committee decided not to require a course on a single topic, given difficulties agreeing on one particular topic over others and given questions of scale in an undergraduate student body of more than 8,000. Instead, following the inspiration of the suggested topics and building on the successes of existing examples, the committee proposes a new category of course at Notre Dame: an Integration course. Such courses would be team-taught by faculty from two departments or academic units and would have as a primary goal the pursuit of knowledge that integrates and synthesizes the perspective of two or more disciplines to address a particular issue that is too complex to be adequately addressed by a single field of study. These courses should

²⁰ *Ex Corde Ecclesiae* (1990), §15.



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offer the opportunity to explore enduring questions or issues of global importance, such as those examples proposed to the committee, in an interdisciplinary manner. Each represented discipline should make an explicit and significant contribution to the analysis, and the course activities should require the students to identify commonalities and differences, as well as strengths and weaknesses, among the various disciplinary perspectives.

By engaging each other and the students, the instructors should also model interdisciplinary discourse throughout the course, underscoring how the disciplines can come into dialogue for mutual enhancement and transforming students' conception of the relationship between liberal education and specialized research. In doing so, teaching in the core curriculum could become less of a noble duty (or burden) that detracts from the instructors' development as scholars. Instead the core curriculum could help Notre Dame develop a distinctive profile as a research institution that develops scholars with both breadth and depth who can draw with increasing competency on multiple disciplines.

Proposals for team-taught interdisciplinary courses would be accepted from across the University, and would be considered for adoption by an Integration subcommittee formed specifically for this purpose. Criteria for approval as an Integration course should include such elements as: the global importance or existential depth of the proposed topic, the accessibility of the course to a broad segment of the student population, and the interdisciplinary breadth of the instructors and the topic. As is proposed below for the other subcommittees, a course would not be approved without unanimous consent of the subcommittee members or, if in the rare instance a consensus cannot be reached after a good-faith effort, a simple majority vote of the core governing University committee proposed on page 35.

The Core Curriculum Review Committee believes these interdisciplinary courses are sufficiently important that, if adequate capacity to meet enrollment needs can be developed, an Integration course might eventually be required of every undergraduate student as a sort of "capstone" of her or his formation in the liberal arts. The success or failure of these courses and a possible expansion in their initial number should be revisited before the next decennial curriculum review.

- **Theology**

Many of our students arrive at the University formed by a culture in which questions of faith and reason are often reduced to a sterile polarity—in which the mystery of God's revelation to human beings is typically said to be directly at odds with science and rationality. Theology challenges this conceptualization. Theology invites our students to broaden their horizon of understanding by grappling with the mystery of the revealed word and by seeing how, in the light of God's revelation, they may bring the fullness of reason and experience to bear in comprehending its meaning for all dimensions of human life. At its best, the science of God that is theology



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introduces our students to a wisdom tradition, a realm of beauty, and a depth of inquiry they may never have experienced or imagined existed.

The proposed goals of the theology core requirements are described below; a more detailed exposition is available in the [Catholic Mission Focus Group report](#). Upon completion of the core courses in theology, students will be able to explain, appreciate, and engage in theology as a unique mode of inquiry, one that seeks to understand revealed mystery, using reason not to eliminate revealed mystery but to comprehend it, appreciate it, and work out its consequences for our understanding of ourselves and our world. Students will learn and develop the capacity to articulate the uniqueness of categories, such as “creation,” “sin,” “redemption,” “revelation,” “incarnation,” and “grace,” in which this inquiry is conducted, and learn to use them in their relation to other categories (proper to other disciplines) through which we attempt to understand the world.

Two courses in theology are required in the proposed curriculum. The first course is “foundational.” It makes students familiar with the major elements of the written word of God (Scripture) and sacred Tradition. Further, students learn how Revelation is transmitted through the mediation and interrelationship between Scripture and Tradition. The second course is “developmental” and focuses on doctrine in development and dialogue. Here, students explore in depth important doctrines of Christian faith. They learn how our understanding of them develops in light of new questions and insights.

The committee also recommends that the Department of Theology build on current efforts to develop a placement examination to ensure that students with significant background in theology upon entering Notre Dame are placed into appropriate courses. Students who have already met the learning goals for the foundational course should immediately be placed into developmental courses. With appropriate approval, students with strong backgrounds in theology could fulfill their theology requirement by taking two developmental courses or a developmental course and a theology majors course.

● **Philosophy**

Many students enter college skeptical that there are any truths about the world to be discovered that go beyond the scope of traditional empirical disciplines. They leave questions about the existence and nature of God, ethics, the nature and destiny of human persons, the scope of knowledge, and the existence and scope of freedom of the will—among many other questions—in the realm of “opinion” and outside the scope of serious intellectual inquiry.

The goal of philosophy is to provide the framework of reason that allows the discovery of truths that extend the reach of empirical disciplines. Students following a first course in philosophy should develop an acquaintance with the basic concepts of logic in order to identify, construct, and



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assess arguments; the confidence that arguments can be rationally adjudicated; the ability to examine the preconceptions built into ordinary and scientific arguments and to uncover the significant philosophical questions behind these preconceptions; and the ability to argue, via reason, for and against the central ideas of Christianity. They should also gain an appreciation for philosophy as a unique discipline, especially in its formative and sustained relationship with Christianity. A more detailed discussion of philosophy learning goals is available in the [Catholic Mission Focus Group report](#).

The proposed core curriculum includes one introductory philosophy course, which would provide the foundation described above. The committee lauds important efforts begun this past year within the Department of Philosophy to strengthen this course. The proposed core would also offer students the option of a second philosophy course or a Catholicism and the Disciplines course (described below). Students who take a second philosophy course will consider a cluster of philosophical questions in the student's area of interest. This might include, for example, the philosophy of science or the philosophy of religion.

● **Catholicism and the Disciplines**

The University mission statement avows that our distinctive goal is to provide a forum where “the various lines of Catholic thought may intersect with all the forms of knowledge found in the arts, sciences, professions, and every other area of human scholarship and creativity.”

To embody this goal in the core curriculum, the committee recommends the option of a new category of courses—Catholicism and the Disciplines (CAD)—that would further integrate the University's distinctive mission across the curriculum. Courses in the CAD category should require students to engage faith questions or normative questions critically and constructively and should engage ideas central to the Catholic tradition from the perspective of one or more disciplines. The CAD courses will enhance students' capacity both to speak intelligently about their faith in a pluralistic world and to explore topics in the disciplines from a distinctively Christian or Catholic framework.

Sociological data tell us our Catholic students, certainly, and perhaps also students from other faith traditions, are less knowledgeable about and less attached to their faith traditions than students a generation ago.²¹ CAD courses have the potential of deepening student knowledge about a tradition whose reach extends from the Sistine Chapel as discussed in an art history course to a finance course that explores ethical perspectives on investing.

²¹ Christian Smith with Patricia Snell, *Souls in Transition: The Religious and Spiritual Lives of Emerging Adults*, (New York, 2009). On Notre Dame students, Christian Smith, *Young Catholic America: Emerging Adults In, Out of, and Gone from the Church*, (New York, 2014), esp. 255-263.



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CAD courses should help students develop greater resources, including from the Catholic intellectual tradition, to engage persons of other faiths and people without faith. The courses should challenge students to reflect on (or discover elements of) their own faith or non-faith and to describe the extent to which various claims are supported by faith and/or reason. A more detailed discussion of learning goals for CAD courses is available in the [Catholic Mission Focus Group report](#).

Already a number of faculty have expressed interest in offering such courses on topics ranging from religion and literature to economics and Catholic thought. Our hope is that CAD courses will widen the circle of instructors from all religious backgrounds, or none, who are interested in making the many issues that are central to our Catholic mission come alive in their classrooms.

Note: A distinction should be drawn between the CAD courses and the Integration courses. CAD courses must include faith or normative questions and should engage ideas central to the Catholic tradition, but they need not be team-taught. Integration courses need not include any religious elements but are necessarily multidisciplinary, requiring that two or more faculty members be present in the classroom throughout the semester.

While we have been pleasantly surprised by the number of faculty offering to design CAD or Integration courses, it still will be important for the University to encourage these faculty through course development grants, replacement funds for departments, and, possibly, release time. The experience at other universities—the committee met with faculty from University of Texas and Boston College, among other institutions—suggests that student response to courses outside standard disciplinary frameworks is often enthusiastic, but that the demands placed on faculty to offer such courses are easily underestimated. Departments are also understandably cautious about faculty teaching courses that reach beyond sometimes pressing departmental requirements. All of this again speaks to the need for University, not simply departmental or college, ownership of the core curriculum and the need to make strong general education courses for all students a high priority.

● Writing Skills

The ability to express arguments and ideas clearly is essential in most professional endeavors. In its discussions and surveys, the committee received many requests to bolster the requirements for writing. Courses that satisfy requirements in the writing category should teach students to identify an issue amid different and conflicting points of view in what they read; frame and sustain an argument that not only includes both the analysis and exposition of information but also establishes what is at stake in accepting their views; provide relevant evidence to support their point of view; and identify and analyze potential counterarguments.



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The current writing requirement involves one Writing and Rhetoric course and one University Seminar, both taken in the first year. More than 60 percent of Notre Dame students, however, test out of the current Writing and Rhetoric course. (Exactly what AP test should measure competency as a writer is discussed below.)

The committee recommends that the Writing and Rhetoric course and the University Seminar continue to count toward the University's writing requirement. Additionally, the committee recommends that students who test out of Writing and Rhetoric be required to take not just the University Seminar but also a second writing-intensive course, so designated in the course catalog. This course could be another University Seminar or a designated writing-intensive course, which requires a sufficient amount of writing and revision. The latter could be a core course, a major course, or an elective. We expect that a designated writing-intensive course will also fulfill another requirement of a student's major or simultaneously fulfill another core requirement so that it does not add a course to a student's program of study.

The committee recognizes that faculty who are developing writing-intensive courses will most likely require assistance. To that end, the committee suggests hiring writing-across-the-curriculum specialist(s), perhaps to be housed in the University Writing Program. A specialist would bring particular expertise in writing instruction, and could serve as a point person in the evaluation and assessment of the writing requirement implementation. This specialist could, for example:

- (1) work closely with the colleges and schools to further develop appropriate writing-intensive courses for their respective majors;
- (2) work with new faculty who are developing writing-intensive courses at Notre Dame;
- (3) continue to develop a best practices guide that serves as a single online destination for USEMs and the University writing requirement. The guide could better assist faculty in sharing best practices (including, but not limited to, strategies for teaching writing). A similar guide already exists for the College of Arts and Letters' College Seminar (CSEM) courses and, includes sample lesson plans and syllabi, advice on how to teach seminar courses, and links to resources.

To strengthen the writing requirement further, the Advanced Placement focus group recommended that the University (1) should not allow any AP English Literature exam score to be used to test out of the Writing and Rhetoric course and (2) should consider raising the requirement for credit based on the AP English Language and Composition exam to a score of 5. Accepting AP for placement purposes would be consistent with the committee's proposal about AP on page 31, however, it would be in lieu of the University developing its own writing and placement test. The proposed University committee (see page 35) should consider all of these matters together with the faculty associated with the University Writing Program.

The committee was pleased by enthusiasm from both faculty and students for the current University Seminar requirement. Given the additional emphasis on writing in the proposed core



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curriculum, it may be necessary to consider an increase in the number of University Seminars offered for those students who (in the second semester of the first year or as sophomores, juniors, and seniors) wish to take an additional University Seminar to fulfill the requirement for a second writing-intensive course.

Core Requirements Comparison

For reference, the current core and proposed changes are summarized below:

CURRENT CORE REQUIREMENTS	PROPOSED CORE REQUIREMENTS
2 courses in math and 2 courses in science	1 course in quantitative reasoning, 1 course in science and technology, and 1 course in either quantitative reasoning or science and technology
1 course in history, 1 course in social science, and 1 course in fine arts or literature	<ul style="list-style-type: none"> • 1 course in art, literature, or advanced language and culture, • 1 course in history or social science, • 1 Integration course or 1 course in a way of knowing not yet chosen for this requirement
2 courses in theology (1 foundational and 1 developmental)	2 courses in theology (1 foundational and 1 developmental), with appropriate placement available
2 courses in philosophy (1 introductory and 1 elective)	1 introductory course in philosophy and 1 additional course in philosophy or the Catholicism and the Disciplines category
1 University Seminar taken in first year	1 University Seminar taken in first year
1 Writing and Rhetoric course taken in first year unless waived with AP credit	1 Writing and Rhetoric course taken in first year or, based on AP score, 1 other writing-intensive course (can be a second University Seminar)
1 Moreau First Year Experience course	1 Moreau First Year Experience course

V. UNDERLYING PRINCIPLES AND FURTHER RECOMMENDATIONS

As it examined Notre Dame’s general education requirements and considered possible changes, the committee developed a set of principles that shaped the scope of its conversations and its recommendations.



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- **Shared Ownership**

It is the responsibility of individual academic disciplines to educate students through majors, minors, courses, and other programs. Simultaneously, it is the responsibility of the faculty *as a whole* to own the general education requirements at the University. One advantage of the shift to a “ways of knowing” approach to the core curriculum is to make the core curriculum more of a shared responsibility.

Currently, almost no course that fulfills general education requirements is taught by faculty members outside of the College of Arts and Letters and the College of Science. If our proposal is adopted, we anticipate faculty in the Colleges of Business and Engineering, the Schools of Architecture and Global Affairs, and the Law School will offer at least some courses that can fulfill requirements in the core curriculum. Opportunities to participate in CAD courses and team-taught Integration courses also open new avenues of engagement for faculty as well as students across the University.

- **Course Delivery**

Without faculty ownership no core curriculum will achieve its goals. Prompted by questions and comments from students, the committee analyzed who currently teaches the University’s core curriculum courses.

The majority are taught by regular faculty with three significant exceptions: According to the Office of Strategic Planning and Institutional Research, 37 percent of the first philosophy courses, 31 percent of the first math courses, and 30 percent of the first theology courses in the core curriculum were taught by tenured or tenure-track faculty in the 2013-14 academic year.

Given the privileged position of theology and philosophy, especially, for the core curriculum as currently structured and as envisioned by this committee, the low percentage of tenure-line instructors teaching core courses in these two areas is especially concerning. (In 1969, when the current model of two courses in theology and two courses in philosophy was developed—a reduction in such courses at that moment—the University did so in part to ensure that tenure line faculty taught these courses.²²)

The committee recommends that introductory courses in the core curriculum be taught by regular (i.e., tenure-track and special professional) faculty. Exceptions to this policy—for especially talented graduate students, distinguished visitors, etc.—would be allowed but should require prior

²² See, for example, “Report of the Curriculum Revision Committee,” John W. Meaney, ed. (November 1968), University Archives.



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approval from faculty and administrators overseeing the core curriculum, with the understanding that the University's goal is to have the vast majority of introductory courses taught by our most talented and experienced faculty.

- **Flexibility**

No student will see an increase in required courses under the proposed core curriculum. Students in the College of Arts and Letters would see a decrease of one required course; students in the College of Business a decrease of one required course, and students in the School of Architecture a decrease of one required course. If the committee's recommendation to require a certain number of electives within each student's course schedule is adopted, almost all students in the College of Engineering would see a reduction of up to three courses in their degree programs.

All students, no matter their major, will see an increase in flexibility with a greater variety of courses fulfilling University requirements in philosophy, theology, and quantitative reasoning, and with more choice in other liberal arts courses because of the addition of Integration and CAD courses as possible options.

Finally, the committee also recommends that advisors encourage students to spread out their core requirements rather than attempt to take as many as possible in their first year. Approaching some of the core subjects after the first year could make substantial differences in the way students understand the material and view the usefulness and applicability of the core curriculum.

- **Student Placement**

More sophisticated and individualized placement of incoming students into their first courses is crucial to providing the optimal experience as students enter Notre Dame. The committee believes that there is no reason *all* students cannot be placed into the appropriate level of a given course of study. The committee thus makes two specific recommendations on placement issues that affect all Notre Dame students.

First, the University should further assess testing and placement for introductory calculus classes. Significant effort has been expended in this area, but many students are still finding themselves in an inappropriate course. The development of alternative, potentially more attractive courses in quantitative reasoning for some students should help to ameliorate this problem.

Second, the Department of Theology, working with the Enrollment Division and First Year of Studies, should develop a placement test or mechanism to assess high school records to ensure that students with significant backgrounds in theological studies are placed in advanced courses while students without such backgrounds continue to be placed in foundational courses. All students will still take two Theology courses at Notre Dame.



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● Advanced Placement

The committee was asked to consider the question: “What, if any, relationship should exist between core curriculum requirements and advanced placement examinations?” The committee did so with the guidance of the Advanced Placement Focus Group, whose report is available [here](#).

Advanced Placement policies are currently set in an ad hoc way. The decision to accept AP credit is left up to the departments teaching the relevant courses. No Advanced Placement credit is given in history; some is given in psychology and economics. Students may now use AP credit to avoid taking a single math or science course at Notre Dame. No test exists for either theology or philosophy, and so no credit is given.

All committee members support and indeed encourage the practice of placement into more advanced levels of a given discipline through the use of AP credit. The more difficult question was whether AP examinations should allow a student to test out of a core requirement altogether. Here it seemed AP credit should either be accepted for all core requirements for which there is an AP course that is sufficiently aligned with the requirement’s learning goals, or it should not be accepted for any courses in the core.

In weighing these two options, the committee considered several factors. Chief among them was a desire to maintain flexibility—particularly for students who have scheduling constraints. For example, engineering students have a high number of required credits for their majors, and historically about 30 percent of them have been able to add flexibility to their schedule by using an AP test to satisfy their social science requirement. From the data available, the Advanced Placement Focus Group concluded that most students use the flexibility afforded by AP credit to add “breadth and depth” to their education rather than to significantly reduce the total number of classes taken.

The committee at the same time recognized that a consistent AP policy would likely mean expanding the set of accepted AP exams (e.g., adding the English literature and history exams). Combined with the proposed changes to the core curriculum, this would result in a situation where many students would be able to “test out” of a significant portion of the core. For example, under the proposed core, students choose one course in the art and literature or advanced language and culture category, one in the history or social science category, and one course in Integration or in a way of knowing not yet chosen for this requirement. A student could enter with AP credit in microeconomics, English literature, and United States history, and test out of this portion of the core entirely. Students could (and some now do) satisfy their quantitative reasoning and science and technology requirements with AP credit alone. The committee felt that this would limit the University’s ability to ensure a broad-based liberal arts education and would reduce the extent to which the core provides a common experience for all students. A further distinction is provided by the contrast between an AP course and one from the core curriculum. While we did encounter



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instances of insufficient intellectual challenge for students, our sense from students and faculty alike is that, more broadly, the experience and the focus of a Notre Dame core course—given adequate student placement—is considerably different than that of even advanced high school courses. Ideally, core courses present an experience of a given discipline and place that body of knowledge in the context of ideas or themes relevant to broader societal or global issues. They also lead students to more active learning, which will benefit students throughout their studies. AP courses tend to focus instead on acquisition of discipline-specific skills or knowledge.

The proposed changes to the core also restore some of the flexibility that would be lost under a policy in which AP credit is not accepted for core courses. With the advent of Integration and CAD courses, there will also be more opportunities for double counting requirements. Finally, the committee has recommended that all majors include room for at least three electives. In sum, these recommended changes would make the core more compatible with activities such as studying abroad, adding a major or minor, or taking interesting electives, even without AP credit for core courses.

The committee therefore recommends that the University no longer accept AP credit to test out of core curriculum requirements. AP credit would, however, continue to be accepted for placement purposes—including in the writing requirement, where students can place out of the Writing and Rhetoric course but would therefore take a second University Seminar or other writing-intensive course to satisfy the two-course writing requirement. Notably, AP credit will also be accepted in lieu of college, school, and major requirements at the discretion of the colleges, schools, and departments. For example, students in a college with a language requirement will, at the discretion of the college, be able to use AP credit to satisfy all or part of this requirement. The intent of this recommendation is to preserve both the core experience for all students while retaining the maximum flexibility afforded by AP credit outside of the core curriculum.

• Major Credit Hours

Part of the committee's charge was to examine how core curriculum requirements work in conjunction with academic major requirements. Clearly, any University's core curriculum exists only in relationship to major courses of study and electives. As part of its work, the committee compared the number of courses required to complete particular majors at Notre Dame with the same number at selected peers. While comparisons are not simple given differences between the quarter and semester systems as well as variations in counting procedures across institutions, some of our majors appear to be significantly more intensive (in terms of credit hours) than majors at similar private research universities. To our surprise, we found that no University office at Notre Dame monitors the size of majors, allowing individual departments to expand the credit-hour footprint of their major programs at will.



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When combined with Notre Dame’s sizeable number of core requirements, high numbers of required credit hours in departmental majors significantly limit student flexibility. To take one example: Students who come to Notre Dame and major in engineering without any advanced placement credit have at most two, and in some cases as few as zero, University electives over the entire four years of their undergraduate education.

Working in consultation with Dean of Engineering Peter Kilpatrick, the committee decided to recommend that the combination of major requirements and University requirements for any single student in any major program should still permit at least three University elective courses to be taken in any college, school, or department. Such a standard would continue to place Notre Dame well above minimum thresholds established by accrediting agencies (such as the Accreditation Board for Engineering and Technology), while permitting the flexibility and course diversity central to our Catholic liberal arts goals. The committee recognizes that exceptions to this “three elective” rule may be necessary for particular programs, but the committee also attaches significant value to intellectual exploration outside major courses of study as an important part of general education. The burden of proof from the student’s point of view is to demonstrate the necessity of each course in programs with large credit-hour footprints. The committee suggests that the Office of the Provost develop mechanisms to balance disciplinary requirements with flexibility within the curriculum. Final decisions on any proposals for exceptions should be made by the Provost, after consultation with appropriate persons.

● **First Year of Studies and Advising**

The committee recommends that academic advising become more integrated with the existing colleges and schools from the outset of a student’s enrollment at Notre Dame. Notre Dame’s First Year of Studies (FYS) is unusual among peer institutions, which raised the question as to whether the current structure is optimal. A wide range of options was considered, including recommending the elimination of the First Year of Studies and admitting students directly to prospective colleges and schools. This decision would, for example, more cleanly delineate advising responsibilities and propel our increasingly well-prepared students into the majors and programs that attracted them to Notre Dame.

After receiving the [Academic Advising Focus Group report](#), the committee was persuaded that the particular challenges of transition to college merited a retention of the special First Year of Studies advising role, with a renewed emphasis from all sides on integration with advising in the colleges and schools. The challenge is to distinguish between the First Year of Studies as a vital advising unit, and the core curriculum as both a responsibility of the entire faculty and a four-year opportunity for students. Precisely because many core courses can and should be taken after the first year, the committee encourages the elimination of “first year curriculum” from the University’s advising vocabulary and from descriptions of the current undergraduate requirements.



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The committee also recommends that the associate provost for undergraduate education should serve simultaneously as associate provost and director (or dean) of First Year of Studies.

New general education requirements that increase undergraduates' freedom to choose courses will yield challenges as well as opportunities. More choices will not automatically produce better choices. If students are to benefit from increased flexibility and more integration, both now and after graduation, they will need more and better advice. Academic advice at Notre Dame can and does come from many sources: advisors in the First Year of Studies, regular faculty, academic advisors in the colleges and schools, departmental advisors, and career services personnel. They are committed to what the University's mission statement terms "the development in its students of those disciplined habits of mind, body, and spirit that characterize educated, skilled, and free human beings."

We therefore recommend that the University Core Curriculum Committee that we propose on page 35 study the challenges facing Notre Dame and the best practices at similar universities, and should consider three suggestions offered to this Core Curriculum Review Committee:

- (1) That the University undertake a review of the current advising structure, with the goal of providing means of increased collaboration and communication across all aspects of advising, ensuring that students' various needs can best be met throughout their entire careers at Notre Dame;
- (2) That academic advising at the University become more deliberately cohesive, incorporating more input from prospective major departments from the very beginning;
- (3) That a much stronger emphasis and effort be focused on achieving proper placement for each student in the introductory courses required for their choice of major as well as for core requirements.

The committee was pleased to become aware of ongoing initiatives led by colleagues in the First Year of Studies and in the colleges that are already addressing the challenges of the "hand-off" between FYS and the colleges, academic placement (where FYS will need more assistance from departments), and coordination between directors of undergraduate studies and FYS advisors. We applaud these efforts and encourage even more substantive advising conversations with students in the summer before they arrive at Notre Dame so as to avoid the first year becoming a vehicle simply for "getting requirements out of the way." As emphasized in the Academic Advising Focus Group report, these efforts are central to improving the overall quality and consistency of academic advising.

The committee notes that other recommendations of the Advising Focus Group are important but are beyond the scope of the Core Curriculum Review Committee, such as the creation of a University-wide Advising Council that could gather all advising units together—including



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academic advisors, student health professionals, and rectors—and study advising best practices across the University. The improvements that could come from additional intervention in the area of advising at the University level have the potential of significantly improving the student experience at Notre Dame.

• University and Faculty Governance of the Core Curriculum

The new core proposal, if accepted, will necessitate more intentional coordination across colleges, schools and other academic units, as well as a greater involvement of faculty and the University in its governance.

The committee considered several different models of faculty leadership. The structure deemed the strongest was a University committee with elected members and appointed members (to ensure appropriate representation across colleges and schools), led by a chairperson appointed from the faculty, and with significant staff support.

The committee would report to the relevant associate provost. The responsibilities of the committee would include coordinating the implementation of the new core, recruiting faculty to teach core courses, hosting and/or initiating workshops on various core curriculum issues (e.g., on Catholicism and the Disciplines courses, writing intensive courses, etc.), and overseeing course approvals. This committee would serve as the focal point for approving new core courses and evaluating and assessing the effectiveness of existing courses. It would also take on the role of recruiting instructors for and assessing proposed courses in the two areas of greatest innovation: CAD and Integration courses. Through its annual report to the Provost's Office, the committee should essentially deliver a "State of the Core Curriculum" each year, providing details on trends, enrollments, new courses, instruction quality, faculty and student engagement in the core, etc.

This University committee would draw upon the resources of domain experts, forming subcommittees of appointed faculty to make recommendations on individual courses. We would require that faculty from history, for example, participate in the working group that drafts the learning goals for the history requirement and assist in deciding which courses meet the criteria of those learning goals. We anticipate, based on experience at Notre Dame (where some committees of this sort exist now) and other institutions, that agreement around both learning goals and which courses fulfill them will not be difficult to obtain. An example of this process is described in Appendix B, which discusses the proposed Quantitative Reasoning learning goals and requirements, as derived by a committee composed of faculty from across the University who came to unanimous agreement on the proposals.

We envision a collaborative process and would require that subcommittees be unanimous in their recommendations. Whenever agreement cannot be reached, the chair of the University committee



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may, first, discuss the issues with the particular subcommittee members to attempt to achieve agreement, and, if necessary, would bring the issues to a binding vote by the University committee. The course-approval process would not be designed to be exclusive or function as a “gatekeeper” to the core curriculum. The objective is to widen the circle of possible instructors and courses that can fulfill requirements without dissolving the distinct characteristics of each “way of knowing.”

We recognize that subcommittees may find useful material in the rationales developed in the wake of the previous curriculum review. Though we found much of the language there both persuasive and edifying, we also recognized in some documents a greater focus on the rationales for given requirements than on student learning goals and, in some of the others, learning goals that do not in the least match current practice.

VI. FACULTY DELIBERATION

This report is the result of extensive research and conversation. After meeting over the course of 14 months, the committee distributed a draft report to the campus community in November 2015 and then facilitated campus-wide faculty deliberation, encouraging and prompting continued participation by faculty, who serve as guardians of the University’s educational mission.

The committee created numerous means through which faculty could provide comments verbally and in writing, among them a request that each academic department offer a response to the draft report and an open invitation for individual or groups of faculty to contact the committee with questions, ideas, or concerns. As part of the review process, the draft report was presented to each college and school through its college council or equivalent body. Faculty were also invited to [email](#) the committee and go to its [website](#) for information.

The committee also invited suggestions on how to increase faculty awareness of and engagement with general education at Notre Dame. The process of deliberating on the core curriculum requirements was educative for committee members and has suggested to us that ongoing discussion—through orientation activities, reading groups, sponsored workshops, and the like—of the history and current possibilities for Catholic liberal arts education would be welcomed by faculty and students.

Taking into account faculty comments, the committee made revisions to the draft report and will present this final report to the Faculty Senate, Academic Council, and, ultimately, the University president in the fall 2016 semester. The committee anticipates that any approved changes to the core curriculum would take effect for the undergraduate class entering in the fall 2018, allowing adequate time for various units on campus to plan for the changes.



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VII. INVESTMENTS AND SUPPORT

The committee sees a clear need for University, not simply departmental or college, ownership of the core curriculum in order to make strong general education courses for all undergraduates a high priority. And in this report, the committee suggests a variety of resources needed to implement the proposed core curriculum. This initiative will require an investment in faculty and support for the University committee and its chairperson, and possibly staff support for the CAD and Integration subcommittees.

Costs would include but not be limited to: (1) support for a tenured faculty member to serve as chairperson of the University Core Curriculum Committee; (2) increased faculty and staff time and effort devoted to the core, especially tenured and tenure-track faculty; (3) funding to be released to departments to develop and teach CAD or Integration courses; (4) hiring writing specialist(s) in the University Writing Program; and (5) costs for faculty workshops or orientations related to the core curriculum.

These costs are nontrivial, but the committee believes that the net gains for student learning far outweigh them. The importance of the core curriculum, the place of the liberal arts at Notre Dame, and the relationship and mutual enhancement of teaching and research are underscored through the proposed revisions. Indeed, fostering a robust core curriculum will accentuate Notre Dame's commitment to exploring the relationships between ways of knowing and to deepening and sustaining Notre Dame's Catholic identity.



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APPENDIX A: FULL COMMITTEE CHARGE

The text below was sent by the University of Notre Dame's president and provost to faculty in August 2014.

Dear Colleagues:

We write to invite the faculty of the University to join in a campus-wide conversation about our core curriculum or general education requirements. To lead the process of reviewing these requirements and deliberating on possible changes to the curriculum, we have formed the Decennial Core Curriculum Review Committee that will be chaired by Greg Crawford, dean of the College of Science, and John McGreevy, dean of the College of Arts and Letters. We are grateful to them and the following colleagues for agreeing to serve as committee members:

- Kasey Buckles, Economics
- Michael Hildreth, Physics
- Peter Holland, Film, Television, and Theatre
- Tim Matovina, Theology
- Leo McWilliams, Engineering
- Mark Roche, German and Russian Languages and Literatures
- Katherine Spiess, Finance
- John Stamper, Architecture
- Michelle Whaley, Biological Sciences
- Rebecca Wingert, Biological Sciences
- Rev. Hugh Page, Africana Studies and Theology, ex officio
- Rev. Robert Sullivan, History, ex officio

In addition, Mr. David Bailey and the members of the Office of Institutional Research will serve as staff to the committee, helping it with its data gathering, research, report preparation, and in any other ways the committee would find helpful.

We have asked the committee to consult as widely as possible during this academic year, given the many students, faculty, programs, and departments directly involved in general education requirements. This committee is also charged with forming a number of subcommittees to help address specific issues related to the core curriculum.

Our shared task as a faculty is a significant one. Every ten years, Notre Dame reviews its core curriculum requirements precisely because these requirements signify and determine, to the best of our ability, the knowledge, dispositions, and skills every Notre Dame undergraduate student should possess upon graduation. Along with major requirements, research experiences, co- and extra-curricular activities, and residential life, the core curriculum is a critical element in



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enabling Notre Dame, as one of the world’s leading Catholic research universities, to “offer an unsurpassed undergraduate education that nurtures the formation of mind, body, and spirit.”

Every core curriculum committee confronts an altered educational landscape and this committee is no different. An incomplete list of notable changes since the University’s last review might include the enhanced capacity of our undergraduate students as suggested by their high school grades, advanced placement examinations, and standardized tests; a welcome increase in the diversity of our undergraduate student population, from both within and beyond the United States; more widespread use of new pedagogical techniques, some incorporating online resources; changes in the religious formation of our students before their arrival at Notre Dame; and an accelerated pace of globalization and contact with societies and cultures once thought distant from our own.

Much good work has already been accomplished. In 2011, the Academic Council approved a set of learning goals for undergraduate education (see <http://provost.nd.edu/undergraduate-education/university-learning-outcomes-for-undergraduates/>). Last year, we convened a preliminary committee chaired by Rev. Robert Sullivan and reporting through Associate Provost Hugh Page (both of whom will serve as a resource to the committee as ex officio members), which included faculty members from across the University. They examined possible options for curricular reform and gathered data on curricular structures at other universities, particularly those which have recently undergone similar curricular reviews.

We anticipate that the committee will be wide ranging in its assessment and recommendations. In particular, we have asked committee members to address the following five questions:

1. What knowledge, dispositions, and skills should all Notre Dame students possess upon graduation?
2. How best can these be instantiated in core curriculum requirements, and what set of organizational structures—from academic advising to the relationship between the First Year of Studies and the Colleges and Schools—best facilitate their acquisition by students?
3. How can our core curriculum not only sustain but also deepen our commitment to Notre Dame’s Catholic character?
4. What, if any, relationship should exist between core curriculum requirements and advanced placement examinations?
5. How do and should core curriculum requirements work in conjunction with academic major requirements?

We are asking the committee members to complete their work as efficiently as possible, but recognize that their charge requires considerable faculty consultation and thoughtful deliberation. If they are not finished with their work by the beginning of the 2015-16 academic



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year, we have asked them for a draft report by that date. We anticipate that during the 2015-16 academic year, we will begin and complete the process of having the committee's final report and recommendations considered by and voted upon by the Academic Council.

We encourage all faculty members to assist the committee—and our common enterprise—by participating in the evaluation of the core curriculum through the processes developed by the committee, and in this manner, helping us develop the strongest possible core curriculum for the decade ahead. Thank you and the committee members, in advance, for your efforts on this important responsibility and opportunity.

Yours in Notre Dame,

Rev. John I. Jenkins, C.S.C.
President

Thomas G. Burish
Provost



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APPENDIX B: Quantitative Reasoning Learning Goals and Requirements

The following text was drafted by a committee chaired by Mike Hildreth (Physics, CCRC Co-chair) and composed of Victoria Goodrich (College of Engineering), Bei Hu (ACMS), Fang Liu (ACMS), Sonja Mapes (Mathematics), Scott Maxwell (Psychology), Rahul Oka (Anthropology), Katherine Spiess (Finance), and Gabor Szekelyhidi (Mathematics). Over the course of our deliberations, the committee reached unanimous agreement on the proposed learning goals and requirements.

Quantitative Reasoning: Learning Goals

The Quantitative Reasoning requirement recognizes that the ability to understand and analyze measured quantities is not the only aspect of mathematical reasoning that is important. Another fundamental mode of reasoning involves the ability to think in the abstract and to switch reasoning and analysis from the abstract to concrete, from the cognitive model to the experienced reality.

The Quantitative Reasoning requirement thus includes two distinct, but complementary components, **quantitative analysis/inductive reasoning** and **deductive/formal reasoning**. Courses meeting the majority of the learning goals for either component would satisfy the Quantitative Reasoning requirement, as described below. The rationale and learning objectives for these two components are as follows.

Quantitative Analysis/Induction

Applications of mathematical analysis pervade today's culture. We live in an era with vast amounts of quantitative information that can be easily accessed. Big data analyses have become indispensable in the operations of business, education, health, and other settings. Policy makers and ordinary citizens increasingly confront issues in science and technology that can be approached using mathematical techniques. For example, quantitative methods are used to analyze personal finances, formulate government policy, justify data-based decisions, encode and protect information, provide a unified understanding of the forces of nature, and manage the treatment of disease. Understanding the scope and power of mathematical analysis and how to draw conclusions from it enables graduates to better make informed decisions as citizens and as potential leaders of the country and of the world.

Goals and Perspectives

The main goal of the **quantitative analysis** component of the requirement is to provide students with experience in the use of mathematical and statistical methods in the analysis of real world problems.

- Students will learn the inductive process in drawing conclusions from mathematical and statistical analysis.



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- Students will be able to set and solve optimization problems in a variety of contexts
- Students will be able to analyze data with appropriate tools, think probabilistically, interpret results and assess the reliability and uncertainty of conclusions.
- Students will develop the skills to model complex processes or systems so as to be able to predict or change their outcomes. Students will gain an appreciation that models only approximate real world situations and are therefore imperfect, and will develop the skills to quantify these imperfections.

Formal Reasoning/Deduction

The ability to abstract symbolic representations of arguments or problems and to utilize formal logic in the analysis of their structure is a distinct form of reasoning that empowers the human intellect, enhances critical thinking, and facilitates rational decision-making. Representing ideas in a symbolic manner and analyzing arguments with the help of logic are, first and foremost, mathematical exercises, but also occur in many other contexts. Many disciplines, such as the physical sciences, computer science, cognitive science, linguistics, and even music theory rely on the principles and rules of logic to classify, predict, and analyze.

Goals and Perspectives

The main goal of the **formal reasoning** component of the requirement is to provide students with experience in the mathematical way of thinking, especially insofar as this way of thinking fosters the development of disciplined habits of the mind and enhances the power of the intellect.

- Students will learn deductive reasoning in problem solving through problems in which the system of formal reasoning is itself the object of study.
- Students will learn how mathematics and statistics can be used to abstract key features of our world and reason about these features in a general context.
- Students will be able to analyze arguments rigorously and recognize common mistakes that are made in empirical reasoning.
- Students will be engaged with problems whose goal is to follow a rigorous path of deducing conclusions from simple basic assumptions.

The Quantitative Reasoning Requirement

A course recognized as meeting the requirements for a Quantitative Reasoning is one that provides a rigorous basis in logical or analytical thought. In terms of learning goals, a course that meets three out of four of the goals for either Inductive or Deductive reasoning, or more than two goals from each of the categories, would be considered a Quantitative Reasoning course. Rigorous courses in formal logic, statistics, computer programming, and calculus are expected to qualify for this designation, as are, for example, mathematically-intensive courses in specific disciplines, where quantitative methods are applied to analyze and model observational data. Courses based on discipline-specific applications of formal logic may also qualify, given the level of formal logic employed.