



MEMORANDUM

To: Donna E. Shalala, President

From: Richard L. Williamson
Chair, Faculty Senate

A handwritten signature in blue ink, appearing to read 'Richard L. Williamson'.

Date: April 25, 2012

Subject: Faculty Senate Legislation #2011-54(B) – Establishment of the Da Vinci Studies Program (DVS) within the College of Arts and Sciences

At its April 18, 2012 meeting, the Faculty Senate unanimously approved the proposal for a Da Vinci studies Program (DVS) within the College of Arts and Sciences that aims to enhance the opportunities for incoming undergraduate students to explore the interdisciplinary connection among the sciences, social sciences, and humanities.

The supporting materials are enclosed for your reference.

This legislation is now forwarded to you for your action.

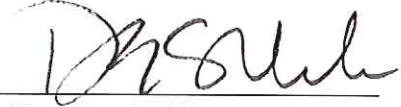
RW/rh

Enclosure

cc: Thomas LeBlanc, Executive Vice President and Provost
Leonidas Bachas, Dean, College of Arts and Sciences
Maria Stampino, Associate Professor, College of Arts and Sciences

CAPSULE: Faculty Senate #2011-54(B) – Establishment of the Da Vinci Studies Program
(DVS) within the College of Arts and Sciences

PRESIDENT'S RESPONSE

APPROVED:  DATE: 9/13/12
(President's Signature)

OFFICE OR INDIVIDUAL TO IMPLEMENT: DEAN BACHAS

EFFECTIVE DATE OF LEGISLATION: IMMEDIATELY
(if other than June 1 next following)

NOT APPROVED AND REFERRED TO: _____

REMARKS (IF NOT APPROVED): _____



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TO: Richard Williamson
Faculty Senate Chair

FROM: Leonidas Bachas
Dean

SUBJECT: Da Vinci Studies Program

DATE: February 29, 2012

At the meeting of the College faculty on Tuesday, February 28, 2012, the faculty voted unanimously in favor of a program called the Da Vinci Scholars Studies. This undergraduate program aims to enhance the opportunities for incoming student to explore the interdisciplinary connections among the sciences, social sciences and the humanities. I am now forwarding the proposal to the Senate for action.

A copy of the proposal is attached for your convenience. Should you have any questions or require additional information, please let me know.

LGB/rkg

The Da Vinci Scholars

Proposal for an undergraduate program to link the humanities and the natural sciences at the University of Miami

February 2012

The Da Vinci Studies Program (DVS) in the College of Arts and Sciences aims to enhance the opportunities for incoming students to explore the interdisciplinary connections among the sciences, social sciences, and humanities. While intellectually curious, talented juniors and seniors find abundant possibilities, through majors and minors, to cross disciplinary borders in the pursuit of knowledge, freshmen and sophomores are less likely to find sufficient prospects from which they can view these cross-disciplinary linkages at the outset of their college careers. Moreover, given that the kernel of a new idea can arise from any field of knowledge, in any of the humanities, sciences, or social sciences, near or distant from the home field, genuine interdisciplinarity throws open the gates and fosters the exploration of all disciplines. No great discovery, as Francis Bacon said in the midst of the Scientific Revolution, is made by standing on the same level. All too frequently STEM (science/technology/engineering/math) students see humanities courses as impractical, unworldly, and unproductive. Conversely, humanities students too often understand science as the rote acquisition of facts or technical know-how. Yet both the ancient and recent history of the humanities and the various sciences show how progressive the cross-fertilization among fields can be.

The Da Vinci Studies Program encourages incoming freshmen and sophomores to rethink the map of human knowledge. It emphasizes connections between humanistic and scientific inquiry and their modes of understanding: objectivity, critical analysis, self-reflexivity, the nature of proof, authority, and the logic and rhetoric of written expression. It also helps define the distinctive elements that humanities classes can offer to STEM-minded students: a chance to reflect on questions of human values, ethics, and aesthetics. At the same time, it introduces humanities students to conceptually new means of investigating the traditional fields.

This Program is therefore a recruiting tool to attract better students to the College by highlighting the many possibilities that our various Departments and Programs offer. In conversations with UM's Admissions, we have discovered that prospective students and their parents are interested in programs that make institutions unique and that offer richer educational opportunities.

Simultaneously, the Program fosters a sense of community among like-minded students and facilitates their *cursus studiorum* and their academic experience. A focus group we conducted in late Spring semester 2011 indicated that undergraduates who already major in two widely different areas of study discover their connections serendipitously, first, and second, that coordinating their requirements is quite laborious.

We propose to bring 25 students into the Da Vinci Studies Program as a pilot. We are presenting four (4) new courses recently approved by the College Curriculum Committee as well as four (4) curriculum samples to show what a students interested in SPA and CHM, say, would be able to take as a Da Vinci Scholars pursuing their Bachelor's degree in the CAS.

Program Features:

- 25 students admitted to the College and in the program per year, recruited with:
 - consideration for merit scholarships,
 - a minimum score of 1400 on their SAT or 32 on their ACT, along with significant academic achievements in high school,
 - waivers of CAS's general education requirements (and see below under "Advising"),
 - chance to be part of an intellectual and social cohort,

- funding for study that includes travel (optional)
- inclusion of program participation on transcript and diploma upon graduation and
- personalized faculty advising for medical school, law school, and PhD programs—faculty program facilitator supervises student advising.
- Most students will end up majoring in one science department/interdisciplinary program and one humanities department/interdisciplinary program.
- Students form a cohort: they take classes together, there are shared social and intellectual activities, shared travel/study abroad.
- Students take one Da Vinci classes each semester in their first three years.
- Da Vinci classes are:
 - a core four-semester sequence, exclusively for DVP students—"The Circle of Knowledge" (fall) and "History and Philosophy of Science" (spring) in freshman year; in sophomore year one class in the fall (we are including two proposals, "Science and Society" and "ArtScience") and in the spring a research/class project involving either a photo lab/visual media project or research in digital humanities (possibly through the Center for the Humanities). Wherever possible, guest faculty will contribute to these seminars from various disciplines. The proposal we present offer some overlap in their coverage, and this is by design, in order to expose students to different disciplinary approaches to the same topic or issue.
 - one third-year seminar per semester in junior year, chosen from the list of 5-6 seminars. These are topic-based classes, often focused on a major contemporary ethical, intellectual, and aesthetic question: The Science and Poetry of Environmental Change; Medicine, Healing, and Religion; etc.
 - in the sophomore or junior year, the chance to enroll in Da Vinci co-listed sections of regular course offerings, with an emphasis on interdisciplinary classes: history of science; medicine and literature; etc.
 - In their senior year, Da Vinci Scholars would organize a public symposium open to the public presumably on an interdisciplinary issue or question, and as a capstone to their shared educational experience.
- Emphasis on global and international questions. Students are encouraged to take classes that involve study and travel: e.g. a class on the literature of London that would involve spring break travel to the city; a class on Chinese history and culture that involved a ten-day study trip at the end of spring semester. Possibility of enrolling in UGalapagos for one semester of the sophomore year. If funds allow, the program pays the student's program fee and round-trip airfare.
- At the end of the sophomore year, students take part in two-day symposium, organized under the auspices of the Center for the Humanities.
- To the fullest extent possible, Da Vinci scholars take classes and are advised by full-time, tenure-line faculty.
- The program draws on existing interdisciplinary strengths at UM: the Leonard and Jayne Abess Center for Ecosystem Science and Policy; the Neuroscience Program; Africana Studies; American Studies; Women's and Gender Studies; Latin American Studies.

Faculty involved in developing the proposal for the Da Vinci scholars program:
Rebecca Brienen (Art History), Otávio Bueno (Philosophy), Dexter Callender (Religious Studies), Stephen Di Benedetto (Theater Arts), Neil Johnson (Physics), Mary Lindemann (History), Gina Maranto (English/CESP), Phil McCabe (Neuroscience/Psychology), Rik Myers (Biochemistry/Molecular Biology--Miller School), Joel Nickels (English), John Paul Russo (English, Classics), Harvey Siegel (Philosophy), Maria Galli Stampino (MLL), Keith Waddington (Biology), Tim Watson (English), David Wilson (Biology).

Advising

Advising is a key component of this program: students need to be made aware of the many implications of each field of knowledge they want to pursue. Additionally, we cannot exclude that students would want to "switch out" of the Da Vinci Scholars program and would then need to fulfill the CAS's Gen Ed requirements. For this reason tenure-track and tenured faculty members would be assigned as advisors for each Da Vinci Scholar, under the supervision of the faculty facilitator.

Student Profile and Enrollment Implications

Our goal, as stated above, is to recruit a cohort of 25 first-year students each year, with the expectation of having at least 20 students in the junior year. This is a program that, analogously to the Foote Fellowships and PRISM, is based on a strong sense of belonging, shared interests and intellectual background and history, and potential for collaborative research in the junior and senior years.

During our research to put together this proposal, we had confirmation that a vibrant community of students interested in both the sciences and the humanities already exists at UM. We conducted a focus group session with about 10 students ranging from sophomores to seniors, who are majoring in one science and one humanities department (or pre-med with a major in one of the humanities). By and large, they indicated that their experience at UM was based on happenstance (meeting a faculty, taking a class to fulfill a Gen Ed requirement, talking to a friend about a class s/he was taking); from this one event a full-fledged course of study took shape in, say, biology and religious studies, or biochemistry and ethics. They also reported their frustration with a seemingly unresponsive structure at UM (e.g., "I'm just waiting for the day when I have 45 credits so I don't have to go and see my adviser anymore and can just pick my classes by myself ...") and the stigmatization by other students ("What can religion possibly have to do with medicine?"). These students are already making connections among such seemingly disparate disciplines by taking classes that interest them and pursuing two different majors. We would like to attract this profile of students to UM by offering them a structure in which to pursue such interests—via dedicated classes and seminars, faculty interaction, research options, and a strong sense of community.

During our focus group session, two additional elements came to the fore that are important in this context. First, this would be a great recruiting tool for outstanding high school graduates—these students told us that high school juniors and seniors are interested in these connections. Second, it would encourage an even larger portion of the student population to explore the connections between disciplines—via seminars open to the entire undergraduate population as well as public programs open to the entire UM community.

Existing resources

In addition to the faculty listed above who have expressed an interest in this program, a quick look at the Bulletin yielded many courses that would challenge Da Vinci students, though this list is far from all-encompassing but merely exemplary:

ARC 121 Architecture and Culture
ARC 223 Architecture and the Environment
ARC 230 Building technology
ARC 372 Ancient Architecture
ARC 390 History of Cities
AMS 301 Race and Ethnic Relations
APY 201 Principles of Archaeology
APY 361 Gender and Language
APY 386 Psychological Anthropology

APY 392 Sex and Culture
ARH 333 Roman Art
ARH 337 Italian Renaissance Art
BIL 372 Readings in Biology
BIL 374 Tools for Creative Thinking
BIL 375 Animal Behavior
BIL 385 Special Topics in Biology--Conservation and Protected Areas
BSL 460 Healthcare Law & Ethics
CHM 317 The Chemistry of Food and Taste
CLA 220 Greek and Roman Mythology
CLA 241 Greek Civilization
CVJ 419 Interactive Storytelling
ECS 372 Special Topics in ECS: Environmental Filmmaking and Community Engagement
ECS 372 Special Topics in ECS: Reporting Global Environmental Issues
ENG 210 Literary Themes and Topics: Literature & Medicine
ENG 210 Literary Themes and Topics: War And The Fashioning Of Gender
ENG 306 Advanced Composition: Nature Writing
GEG 201 Topics in Geography
GRE 101 Elementary Ancient Greek
HIS 223 Medicine and Society
HIS 254 History of the Cold War in America: Revolution, Nation, Empire: Cold War in the Americas
HIS 315 Imperial China
HIS 391 History of Everyday Life
INS 410 Global Perspectives of Race: Race in a Global Perspective
JUS 231 Jewish Civilization
LAS 301 Interdisciplinary Topics in Latin American and Caribbean Studies: Gender and Development
LAS 320 Interdisciplinary Topics in Latin American and Caribbean Studies: Latin America and the Environment
LAT 101 Elementary Latin I
PHI 271 Ancient Philosophy
PHI 333 Biomedical Ethics
PHI 349 Philosophy of Space & Time
PHI 352 Aesthetics
POL 499 Special Topics: Government Accountability, Informational Technologies & Personal Responsibility
REL 101 Religion & Moral Choice
REL 360 Religion & Bioethics
SOC 301 Social Organization
SOC 383 Sociology of Education
WGS 310 Popular representations of Queer sexualities
WGS 315 Gender, Race, Class
WGS 350 Special Topics in WGS: Current Issues in Reproductive Technologies

Budget Implications/Staffing

At this stage we predict the following needs:

- A DaVinci program faculty "facilitator" who would serve as main advisor, as a point of reference for students and faculty, as the scheduling officer and event organizer; s/he would get a course reduction;

- Four faculty members who would teach the core courses, and therefore would need to be replaced in their home departments.

Additional classes would be open to DaVinci scholars and to the larger student population; hence their impact in terms of schedule and staffing would be minimal (say, 5 spots reserved for DaVinci scholars in a class of 20).

What's in a Name?

One might wonder why this new Program is named after Leonardo Da Vinci (1452-1519). It is not a mere marketing ploy, as it reflects the inspiration that the faculty involved in this project draw from an iconic figure who, at the onset of modernity, was a "natural philosopher" (in the language of the time), an engineer, an architect, a keen observer and sketcher of fellow human beings, a painter, a sculptor, an inventor, a chemist, a physicist, and more. At a time when disciplinary boundaries had not solidified, his interests ranged freely across fields, and thus his ideas ere cross-fertilized in creative and exciting ways—not to mention that his achievements are an enduring signpost in world culture, something we wish we could foster in the students participating in this program.

Curriculum Sample 1
 BA with SPA major and BIL minor

1 st Year, Fall DVS101 SPA 211 BIL150/151 MTH107 ENG105 (if needed)	2 nd Year, Fall DVS Science & Society SPA214 BIL250 Elective 1 Elective 2	3 rd Year, Fall DVS Seminar SPA354 SPA440 BIL330 Elective	4 th Year, Fall SPA321 Elective 1 Elective 2 Elective 3 Elective 4
1 st Year, Spring DVS102 SPA212 BIL160/161 MTH130 ENG106	2 nd Year, Spring DVS Research class SPA322 SPA301 BIL255 Elective	3 rd Year, Spring DVS Seminar SPA355 BIL360 Elective 1 Elective 2	4 th Year, Spring SPA501 Elective 1 Elective 2 Elective 3 Elective 4

Curriculum Sample 2
 BA with SPA major and BIL major

1 st Year, Fall DVS101 SPA 211 BIL150/151 MTH101 ENG105	2 nd Year, Fall DVS Science & Society SPA214 BIL250/251 CHM103/105 Elective	3 rd Year, Fall DVS Seminar SPA354 SPA440 BIL330 CHM201	4 th Year, Fall SPA321 BIL365 BIL355 Elective 1 Elective 2
1 st Year, Spring DVS102 SPA212 BIL160/161 MTH103 ENG106	2 nd Year, Spring DVS Research class SPA322 SPA301 BIL255 CHM104/106	3 rd Year, Spring DVS Seminar SPA355 CHM205 BIL331 Elective	4 th Year, Spring SPA501 BIL345 BIL367 Elective 1 Elective 2

Curriculum sample 3
 BS with SPA major and CHM major

1 st Year, Fall DVS101 SPA 211 CHM111/113 MTH161 ENG105	2 nd Year, Fall DVS Science & Society SPA214 PHY205 CHM201/205 Elective	3 rd Year, Fall DVS Seminar SPA354 SPA440 CHM360 CHM364	4 th Year, Fall SPA321 CHM304 CHMxxx Elective 1 Elective 2
1 st Year, Spring DVS102 SPA212 CHM112/114 MTH162 ENG106	2 nd Year, Spring DVS Research class SPA322 SPA301 PHY206/208 CHM202/206	3 rd Year, Spring DVS Seminar SPA355 CHM365 Elective 1 Elective 2	4 th Year, Spring SPA501 CHM316 CHM320 CHM401 Elective

Curriculum sample 4
 BA with ECS major and GEG major

1 st Year, Fall DVS101 GEG105 MSC111 MTH107 ECS111	2 nd Year, Fall DVS Science & Society GEG110 CHM101 POL201 ECS201 (1 credit) ECS113	3 rd Year, Fall DVS Seminar GEG391 GEG341 ECS301 Elective-Modern Language	4 th Year, Fall GEG471 GEG515 ECS402 Elective 1-Modern Language (if needed) Elective 2
1 st Year, Spring DVS102 GSC110/115 MTH130 ECS112 ENG105	2 nd Year, Spring DVS Research class ECS204 GEG199 POL202 ENG106	3 rd Year, Spring DVS Seminar CAE240 GEG392 BIL103 ECS302	4 th Year, Spring GEG491 ECS403 Elective 1-Modern Language (if needed) Elective 2 Elective 3

PLEASE NOTE: The four (4) DVS classes approved by the CCC all fulfill one of the Gen Ed Requirements:

"The Circle of Knowledge" falls under the Humanities/Literature rubric;

"History and Philosophy of Science" falls under the Humanities/Philosophy or Religious Studies rubric;

"Science and Society" falls under the Social Sciences rubric;

And

"ArtScience" would fulfill a Natural Science of a Humanities. Fine Arts requirement.