

## **The Da Vinci Scholars--Revised**

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

October 2011

The Da Vinci Studies Program (DVS) in the College of Arts and Sciences at the University of Miami 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 new truths, 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 see 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 understanding: critical thinking, objectivity, self-reflexiveness, open-minded analysis of evidence, etc. 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.

#### **Program Features:**

- 25 students admitted to the College and in the program per year, recruited with:
  - 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/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.

- 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), Harvey Siegel (Philosophy), Maria 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 described 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. 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:

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 a figure at the onset of modernity who 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. His interests were not divided across disciplines, and thus his ideas were cross-fertilized in creative and exciting ways—not to mention that his achievements are a signpost in world culture, something we wish we could foster in the students participating in this program.