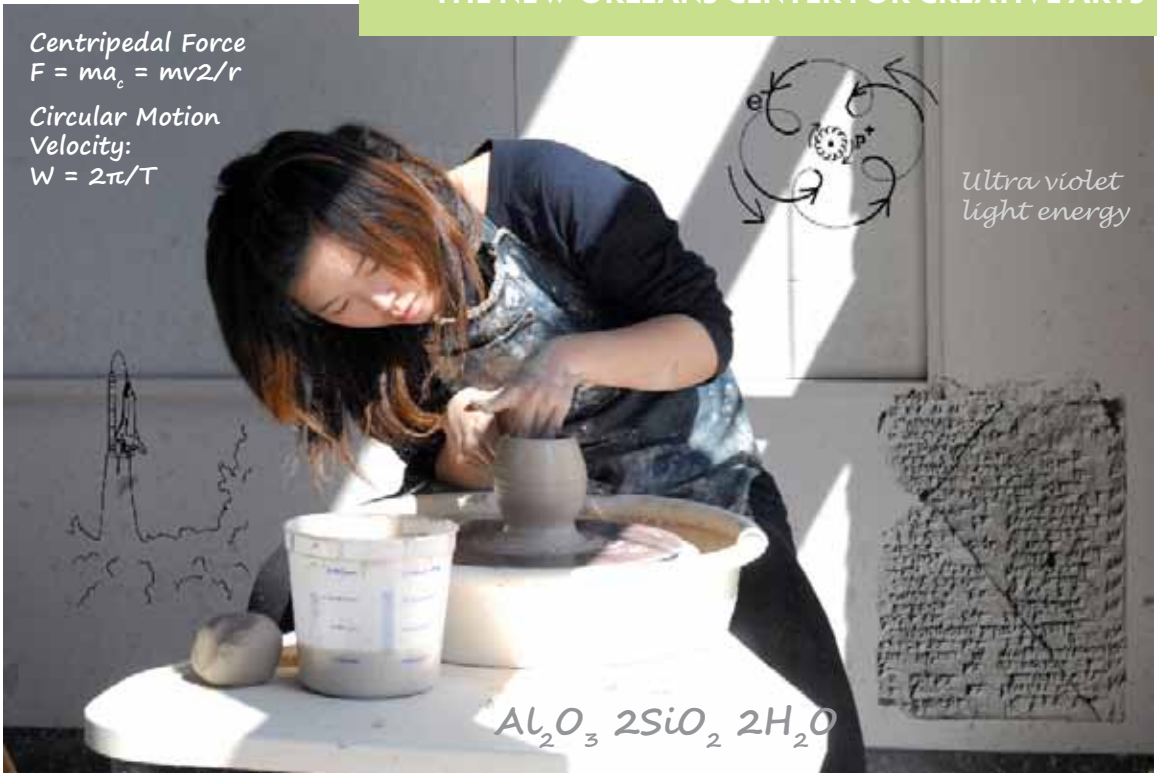
THE ACADEMIC STUDIO AT THE NEW ORLEANS CENTER FOR CREATIVE ARTS



The New Orleans Center for Creative Arts is one of America's preeminent high school arts conservatories. It has also been home to one of the most successful learning pedagogies since its founding in 1973.

In August 2011, we launched a full-day arts *and* academic program called the Academic Studio. We likely represent the only education innovation effort led by an arts-training institution.

Students, who are admitted solely by arts audition, attend NOCCA tuition-free from highly diverse socioeconomic backgrounds and educational preparation, ranging from 4th grade to college-level readiness.

In year one of the Academic Studio, 73% of students scored excellent or good on the Louisiana End of Course Algebra I test. These results were among the best in the state. Just as important, students are developing the same passion for math, science and humanities as we have seen them have for music and dance.

We aspire to not just close the academic achievement gap but help each student develop the habits of mind and work critical for leadership in the Knowledge Era's global, creative and innovation economies. NOCCA's unique approach to learning and its immersive creative environment allow us to do just this.

"What NOCCA excels at is seamless shifting from class to class. With the Academic Studio, you never leave your academic classes, or your arts, for the other. It's an environment where the arts are utilized in every core subject and where many classes are intertwined to form a relationship between two seemingly unrelated subjects. We learn how everything that we know – and will discover – can be connected. And shouldn't that be the goal of education: learning about the world as an integrated whole?"

Grayton Newman, Academic Studio, 10th Grade & Media Arts Level II

While many people assume art schools lack rigor, the fact is they do a much better job of providing students with the most essential mental skills.

Working five hours daily on an art, students learn what it takes to get good at something, to struggle, to fail and try again. Critique becomes a trusted ally, as students develop a passion to seek new ideas and apply what they are learning.

Moreover, NOCCA's nearly 40 years of hands-on learning adds deeper resonance and understanding to some of the many reform techniques now underway across the country.

As artists who start with a blank page, and with no preconceived mandates on curriculum structure, we have redesigned portions of the high school academic framework – most notably in World History – that exist nowhere else.

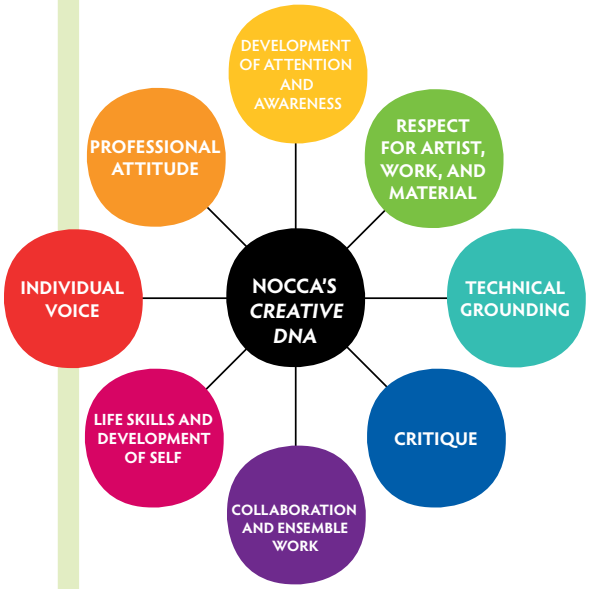
The New Orleans Center for Creative Arts

NOCCA offers education in Culinary Arts, Dance, Media Arts, Music, Theatre, Visual Arts and Creative Writing. NOCCA is central to Louisiana's rich cultural heritage, boasting a long list of distinguished alumni that includes jazz greats Wynton and Branford Marsalis, Terence Blanchard, Harry Connick, Jr., Irvin Mayfield and Troy Andrews; actors Wendell Pierce and Anthony Mackie; and opera star Jeanne-Michéle Charbonnet.

Enrollment continues to climb, with over 600 students in attendance. Graduates go on to college and conservatory at a rate of 95%-100% each year, earning almost $100 million in scholarships in the last 10 years. (The per student college scholarship average is $115,000.) NOCCA's arts curriculum may be found on-line at nocca.com under "Arts Instruction." NOCCA is publicly funded, originally as an Orleans Parish Public School and now as an agency of the State of Louisiana.

NOCCA's Creative DNA

Via the following elements of learning at NOCCA, master artists/faculty are imparting not rote learning but an interconnected set of skills, attitudes, capacity, and expanded perception based on:



- Technical grounding
- Critique
- Development of individual artistic voice
- Collaboration and ensemble work
- Respect for the artist, work and material
- Life skills and development of self
- Development of professional attitudes
- Development of attention/awareness

All studies point to enjoyment of time-on-task as critical to long-term memory, learning and brain development. A hallmark of learning at NOCCA has been students' passion for their work and their art. Such passion is fostered by NOCCA's **mentorship model.** Artist/teachers are introducing students to a particular discipline with the serious assumption that students will participate in that discipline in the future – creating a high level of respect and dedication and extending the degree to which students can be pushed to understand and produce their best work.

The *Creative DNA Study*, conducted by our strategic design partners, Collective Invention, was the result of the initial internal exploration phase. An external exploration phase included visiting 35 centers of learning and innovation to cull best practices, including Massachusetts Institute of Technology (MIT); Stanford University; Exploratorium Museum of Art, Science and Perception; High Tech High; Cooper Hewitt National Design Museum; Google and YouTube.

Academic Studio Design

Following exploration phases, we determined to create a new curriculum together with domain partners. These experts come to us from renowned universities and learning centers across the globe, including Harvard, Stanford, University of Melbourne/Australia, and the Exploratorium.

We required our experts to connect and support arts-training through academics. For instance, we wanted to help Media Arts students understand sound waves and Culinary Arts students understand changes in states of matter as required *early* in their arts-training.

Addressing how to connect arts to academic learning propelled designers to rethink how and when *all* content might be delivered. They crossed boundaries within academic subjects, across academic subjects and across the arts.

Integration: Within Subjects

Within academic subjects, the math curriculum begins with a focus on number sets, statistics and probability in order for students to understand the basis of our number system and be better prepared for later subjects. Yet, even as students advance to algebra, geometry and calculus, they will continuously explore how those branches permeate each other. Likewise, the science curriculum begins with the nature of scientific thinking and integrates biology, chemistry, physics and environmental science each year.

Breaking boundaries in history, however, has had the most impact. Social studies domain partner, Dr. Michael Wallace, realized early on that the arc of human history – which he believes reflects a maturation process rather than a progressive process – mirrored the maturation of young artists.

Using a **four-year course arc** rather than semester or year-long courses, his curriculum structure examines human interaction as it expands and intensifies over time, specifically from deep history to 1400 CE in year one, 1400 – 1700 in year two, 1700 - 1900 in year three, and 1900 – future in year four. **Reflecting how an historian works, students will study geography, world history, American history and civics concurrently within these specific time frames.**

"I know of no high school other than NOCCA that is doing this," says Dr. Wallace, who has developed the curriculum in consultation with a 26-member international advisory board made up of historians from Harvard, Stanford, Princeton and UCLA among other educational institutions. All are keen to participate because they see true transformative value in the framework being developed at NOCCA.

Integration: Across Subjects

Understanding that context best enables learning – as supported by recent brain research – the design team has integrated learning *across* academic subjects. The social studies chronology is in part the framework to appropriately connect history, geography, civics, literature, culture, art, world languages, science and math within different time periods.

As an example, graduate history students at Harvard developed an objects lesson in which NOCCA students are given ancient artifacts as a primary source to evaluate and integrate with other evidence. They are not told what the artifact is but are given layers of information. One item is a Mayan chocolate pot, for which they first develop questions and scientific methods for identifying it and its cultural function, then analyze the relationship between chocolate and power in the pre-Columbian world through colonization to the present day. Faculty use the afterlife of historical objects to set up questions linking the past to the present with recurring themes.

9TH GRADE INTEGRATED CURRICULUM

The Nature of Scientific Theory
Historical Thinking
Love of Reading & Writing
Human Perception
Conceptual Physics
Natural History
Number Sets
Probability
Statistics
Algebra
Geometric Thinking
World Languages
Major Ancient Languages
Classics
Ancient World Epics
Ancient Archeology
Agricultural History
Anthropology
Philosophy
Art History
Cultural Geography

Culinary Arts • Dance • Media Arts • Music • Theatre • Visual Arts • Creative Writing

10TH GRADE INTEGRATED CURRICULUM

Patterns & Inductive Reasoning
Deductive Reasoning & Line Relationships
Geometry
3-Dimensional Geometry
Trigonometry
Biology
Energy
Environmental Science
Louisiana Ecology
Pre-Columbian Americas and Caribbean
Medieval Muslim World
Empires and Transformation of Asia
The Plague
Renaissance & the Americas
Pre-Colonial Africa
The Atlantic World
European Expansionism
World Languages

Schedule

The school day is from 8:30 a.m. to 6:30 p.m. for 9th graders and varies between 8:30 a.m. and 4:30 p.m. or 6:30 p.m. for upper level students. In addition to academic learning in the morning and intensive two and one-half hour arts-training in the afternoon, students have a two and one-half hour block in the afternoon for supported work and world language. During this time, students work with faculty, individually or on group projects, in order to expand upon that which is not understood, move to the next level, or dive more deeply into subjects that interest them.

Teaching Pedagogy

Hallmarks of learning and teaching in the Academic Studio, based on NOCCA's arts-training pedagogy, include:

1. **Self-discovery of answers:**
   Academic Studio teachers do not give students material to memorize and repeat, but rather guide students' own research through finely designed assignments and questions. And because teaching

is one of the best ways to master subjects, students will divide content research and present their findings to their team or class as a whole. **The goal is for students to become producers of knowledge just as they are producers of art.**

2. **Teacher as mentor:**
   Teachers see their role not as the sole source of content but as a critical means through which students learn to educate themselves. **Academic faculty strive for students to see themselves as active intellectuals.**

3. **Questioning is privileged:**
   The highest priority is given to **raising questions rather than seeking answers**. As students have learned to pose questions that are open-ended, critical and intriguing, they are diving deeper and deeper into subject matter. **"Privileging questions" seems to be the most important element driving student maturity, ability to self-start projects, confidence, and love of learning.**

4. **Learning by doing:**
   NOCCA's 39-year success story is based on how humans best learn: **the thrill and struggle of making or discovering something new engages us as no other learning methodology does.** Through hands-on, visual or kinesthetic activities, faculty also help students develop the ability to **self-correct** if they see cues indicating they are on the wrong path, particularly in science and math.

5. **Learning is the constant and time is the variable:**
   Unlike traditional schools where a certain amount of time is allotted to a topic and teachers move on whether students have mastered the material or not, at NOCCA, **students do not advance until they have a full understanding of each unit.**

6. **Critique is central:**
   In the arts and now in academics, teachers and peers regularly critique student work to refine craft, teach constructive communication, share learning across the class, strengthen meta-cognition, and prepare students for the professional world. As in the arts, revision is a key tool and creativity emerges from new perspectives.

7. **Faculty create a safe environment for all students to offer their opinions, ask questions and take risks:**
   Every student's idea is treated with regard by faculty, and students are taught to **differ thoughtfully and respectfully** with each other.

8. **Developing a love of and life-long habit of reading and writing is emphasized.**

9. **Engagement by all students:**
   Engagement is a constant requirement, not only with materials but with peers; (small and large group discussions are a daily part of class).

10. **Learning is seamless:**
    Math and science are taught together – giving students an immediate and superior understanding of the applications of principals intrinsic to both, as STEM/Science, Technology, Engineering and Math guidelines now recommend. English and history are taught together – as world history, geography, civics and culture reflect one on the other. Lastly, how each academic subject applies to students' arts disciplines, and vice-versa, engages students in all learning.

Student-Centered Learning and Intervention

In addition to the supported studies block, student-centered learning is accomplished by presenting students with a wide variety of assignments from which to choose, as well as faculty's knowledge of students' goals and interests. NOCCA faculty have a distinct advantage in that they will work with students over four years, not one.

Since NOCCA's founding, teachers have emphatically encouraged students to develop their own voice and passion in the arts and they now do so in academics. Given an humanities assignment to create an epic, students completed projects ranging from a 30-minute film to an 80-page novel. One student, engrossed in his motion and forms of energy project, built not the one required but 15 versions of a fan-powered cart. Another student became fascinated by political rhetoric and devised an experiment testing electoral success based on different approaches to speech-writing. **What is important is that within a short span of time, students begin to develop and test a wide range of hypotheses on their own.**

NOCCA students also receive constant feedback and support: via daily faculty and peer critique, quarterly grades and counseling sessions/juries, and over time via portfolio development. A heavy emphasis is placed on being able to speak to one's work product.

Within the Academic Studio, assessment and targeted intervention begin on the first day of class. For instance, the first year curriculum focuses heavily on developing a love and life-long habit of reading and writing, utilizing a program developed by the Center for Gifted Education at the University of Connecticut called School Wide Enrichment Model for Reading. Within the first two weeks of school, the English teacher has all students read out loud to him privately in order to have a full understanding of every child's comprehension and reading level.

Initial Challenges

Initial challenges for students, parents, faculty and administration center on the fact that the Academic Studio does not look like anything else students have previously experienced. Students are not given a full set of textbooks as their primary resource; an emphasis is placed on constant improvement and mastery rather than a singular focus on letter grades; and the focus of the initial weeks is on developing a new way to learn.

The bell curve of student preparedness in terms of conduct, focus, attitude, and expectation, as well as reading, writing, communications, and math skills has been far greater than we anticipated. Students are coming to the Academic Studio with skills ranging from 4th grade to early college level.

Other challenges include:

- Enough planning time for faculty – bandwidth will continue to be a factor over the course of the first four years given our iterative design model, faculty's leading role in continuous curriculum development, and assessment of the new program.
- Guiding students to use their laptop computers, essential in a 21st century, self-directed learning environment, as a tool not a distraction.
- Lack of dedicated Academic Studio space; the program currently borrows arts spaces and the library.
- Providing for high quality, multi-level, multi-language world languages instruction when resources are substantially limited.
- Designing, thinking and resourcing like a fully-developed school while we are still scaling up.
- Supporting the development of faculty as teachers and as teams when some have deep design experience while others have deep delivery experience.

Initial Successes

- Students no longer timidly ask "is that right" when presenting their work, but defend their answers and approach new subjects with confidence.

- Students who traditionally did not have success in school are finding a higher level of success almost immediately in the Academic Studio.

- Likewise, home schooled students who chose to return to a school setting have thrived in the Academic Studio.

- Team teaching has supported the faculty and helped them deliver the curriculum in more effective ways. It has also invigorated them as intellectuals.

- Despite deficiencies in reading and writing for many students, all students are expressing good ideas and participating in discussions which faculty find as stimulating and thoughtful as those they led when teaching at the college level. All students have developed critical thinking skills and taken ownership of their learning much faster than faculty anticipated.

- Students have also quickly developed self-regulatory skills in terms of time management, resource management, project planning and organizing (in parallel to the professional attitudes arts mentors require on the arts side.)

- There is a strong sense of community.

- Academic faculty aspire to utilize the resources at NOCCA – a master artist faculty, arts facility, and collaborative environment – to model lessons and activities that can be uniquely conceived here.

I see the successes we experienced in the Academic Studio this year as byproducts of our efforts as an academic community to connect with and build upon many of the principles that have allowed NOCCA to be so successful for so long in developing young artists. Most important among these principles is that we treat our students as "young intellectuals" in their own right, just as they are treated as young artists in their arts disciplines.

Taking on the role of an intellectual in the Academic Studio allows students to really dig into questions and ideas that inspire them, while also assuming the responsibility to develop the technical grounding and content knowledge necessary to write and speak with authority on topics they have taken up in their research.

This dual role, characterized by both tremendous freedom and responsibility, takes time to grow into, and mastering the research, writing, vocabulary and presentation skills (among others) that it takes to develop solid intellectual work takes time. In truth, many students spent much of the first months of the school year swinging between sheer excitement and bewilderment as they reached for new concepts and skills with mixed results. But they took on the risks implied and their growth was tremendous.

by Dr. Spree MacDonald, Integrated Humanities Founding Faculty

Assessment

Assessment is critical to understanding the success of this program and how it can make a difference at scale. The value of the Academic Studio's design is that all students, regardless of background or preparation, have access to the same forward-thinking, rigorous academic program. We will not have achieved our goals if all students – those who are top achievers to those for whom academic success has previously been elusive – are not well-served.

Student performance will be measured against prescribed state, national and NOCCA learning outcomes, with assessment elements including:

1) an **academic project portfolio**, like students' arts portfolios, that include student and faculty-critiqued best work in math/sciences, humanities and languages each year;
2) **grades on class work**, along with **mid-year and year-end reflective and synthesized essays/ projects** that ask students to examine how what they have learned relates and why it is important;
4) **individualized standardized testing** (using Measures of Academic Progress (MAP) testing which encompasses Louisiana GLE and EOC standards and pre-ACT tests);
5) and **State of Louisiana End of Course testing.**

Growth will also be measured in areas emphasized in our curriculum: **critical inquiry, acquisition of strong communication skills, and the ability to see oneself as capable of continuous growth.**

Moreover, we are developing tools to measure and communicate non-cognitive skill development, believing that this represents the next generation of assessment as well as the final steps to closing – and then transcending – the here-to-fore intractable achievement gap. These skills as embedded in NOCCA's Creative DNA. Now we are asking: what does the development of individual voice look like in science? What role does critique play in math? How can the arts' process of learning – fully dependent on persistence, grit and risk-taking – be transferred to academics?

The full process is designed:

- as both an assessment *and* teaching tool for faculty and administration to constantly evaluate program and student strengths and weaknesses, and create targeted solutions for personalized learning;
- to provide clear data and dialogue to help students develop ownership of their learning and families to support their students' learning experiences;
- to enable the whole school community's engagement in the program's success and help administration and faculty determine where we have strengthened or deviated from our vision and promises.

Year One Results

The interplay of an integrated curriculum, arts-based teaching pedagogy, and development of cognitive and non-cognitive skill development resulted in significant student achievement in year one across all learning, but notably demonstrated in Math.

Students expressed how seamless it felt going between classes in year one, and how this year is a fluid extension of last year rather than an abrupt stop and start. They tell us they value how they have been taught to be their own advocates; they feel faculty are invested in them; they have the freedom to explore and ask questions without reservation; and because they can bring their creativity to bear on all projects, they are passionate about learning and look forward to coming to school every day.

In May 2012, students took their first End of Course (EOC) Test in Algebra I, with the following results:

Algebra I End of Course Testing 2012	TOTAL PASSING	Excellent	Good	Fair	Needs Improvement
NOCCA Academic Studio All Students	94%	45%	31%	18%	6%
NOCCA First Time Test Takers Only	93%	39%	34%	20%	7%
RSD New Orleans	66%	12%	30%	24%	35%
Orleans Parish	84%	34%	31%	19%	17%
Jefferson	75%	22%	29%	24%	24%
St Tammany	88%	34%	38%	16%	12%
Statewide	79%	22%	34%	23%	21%
University Lab Schools	89%	42%	37%	10%	12%

Louisiana records the results of all students taking the EOC test (51 Academic Studio students), and the results of students who have never taken the test before (44 Academic Studio students). The later results are published publicly.

With 76% of the 51 Academic Studio students scoring excellent or good, NOCCA's results are in the top ten of Louisiana parishes and lead in percentage of students passing. Primarily, only individual magnet schools who screen for high academic achievers posted higher scores than NOCCA's Year I program.

Students also take an on-site Measures of Academic Progress (or MAP) standardized test. The percent of NOCCA students above the national mean RIT Score for the initial February MAP Testing are as follows: **Math** 62.7%, **Reading** 84.3%, **Language** 94.1%, **Science** 74.5%.

Artists understand the importance of practice and exploration. Unlike students I see elsewhere, the NOCCA Academic Studio students possess mental persistence – a habit of mind essential to learning complex ideas in science, math, history, and language arts. The students are also unafraid to learn from their mistakes or listen to constructive criticism of their work. These are critically important habits they learn from the arts that serve them extremely well as young scholars.

Dr. Linda Shore, Director of the Teacher Institute a
t our science domain partner, the Exploratorium

STEM

Remaining a leader in innovation in science and technology is fundamental to the nation's economic future. But undergraduates are choosing to leave science, technology, engineering and math (STEM) programs before they graduate with those degrees. Research by the University of California Los Angeles has shown they do not have the persistence or support to proceed. Moreover, even before students can sign up for these majors, they have to develop STEM proficiency and interest, particularly in math, which too many high school students do not do. National science organizations call for specific changes to traditional textbook-centered science and math education – identical to NOCCA's nearly four decade approach – including **providing students with direct experience with methods and processes of inquiry, mentorship, and student-centered instructional strategies.**

Just as technical grounding is essential to students as they grow in their understanding of the arts and humanities, we have found this concept equally indispensable for the building of our math and science curriculum. So much of a student's future success in the STEM disciplines hinges upon mastering basic math skills, and that's what our first round of EOC results indicates is happening in the Academic Studio.

However, technical proficiency must also be combined with a sense of wonder and an active curiosity. We do not believe that mastery of a skill set alone is enough to spark and sustain meaningful inquiry, but it's certainly a starting point.

Our hope is that we are creating an environment at NOCCA where students are encouraged to take intellectual risks -- ambitious and thoughtful stretches of their creative and academic abilities -- but where the ultimate motivation for making those leaps comes from the students themselves. It is our job to see that the students have the best preparation and support available to follow the promptings of their imaginations.

by Dr. Dan Webre
Science/Math Founding Faculty

Exploratorium's science teacher Modesto Tamez helps students build a replica of early telescopes to understand how they work on a fundamental level before students begin to work on modern equipment.

L to R: NOCCA 1973-2000; current campus; Creative Campus Master Plan

21st Century Learning Spaces Set in a Creative Village

We must physically accommodate 9th – 12th grade academics and expanded arts offerings. Our goal is to provide learning spaces that support the Academic Studio's emphasis on the active role of students in the learning process.

To meet these needs, The NOCCA Institute is collaborating with a private developer to convert the 55,000 square foot sister warehouse across from NOCCA's current campus into the **NOCCA Forum.** We are approaching the development of these learning spaces with the same spirit as development of the academic curriculum – an opportunity to affect learning at NOCCA and beyond. Design will utilize the latest research on brain development to optimize teaching, learning and memory. Comfortable furniture will ensure concentration. Classrooms will have multiple centers of focus in a project-based, student centered learning model. And spaces will be highly flexible and adaptable to meet changing needs and technologies over the long-term.

The NOCCA Forum will become home to classrooms, science and math laboratories, kitchens and culinary studios, tech shop, social environments, student cafeteria, café and book store.
The Forum will join other NOCCA Institute expansion projects along Press Street including:

- The **Roots Studio** urban farm serving Culinary Arts, academics and the community;
- **Plessy Project**, an interactive educational center honoring the early civil rights work of Homer Plessy and the Citizens Committee),
- **for-profit creative industry ventures,** and
- **Gateway Center** providing for continuing degree and adult education in the arts and media technology.

Funding

The Academic Studio faculty only are funded via the Minimum Foundation Program per pupil state average funding formula ($5,031 per student). Strategic planning, program and curriculum design and development, implementation, capital needs, technology, library/textbooks/ebooks, furniture/fixtures and equipment, assessment design and innovation, classroom renovation, world languages and state mandated requirements have all been privately funded by The NOCCA Institute.

The Institute has raised $1.45 million for the project to date, with program costs projected to be $2 million by the end of the development period in 2015. We continue to fundraise to complete curriculum design for outlying years, and provide for assessment, staff support, equipment and technology.

We also continue to fundraise for the permanent academic facilities. Projected costs for acquisition and renovation of the warehouse across the street from NOCCA into the forum for arts and academics is $16.3 million, to be funded via private donations, tax credits, investment capital and financing.

Conclusion

Academic Studio students are experiencing a highly-integrated curriculum that enables them to make connections and see patterns across disciplines. This deep thinking is essential in the 21st century where we are all being required to make sense of greater and greater amounts of undifferentiated materials.

We have asked whether an arts conservatory – with an innate ability to innovate and with no preconceptions of when and how curriculum content might be delivered – can create a transformative 21st century academic curriculum at the high school level. We believe that we can, and we must.

The Academic Studio and expansion is made possible through the generous support of:

Chevron

Trafigura Foundation

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Ella West Freeman Foundation

Reily Foundation

Edward G. Schlieder Foundation

Joyce L. Schenewerk

Selley Foundation

Joe W. & Dorothy D. Brown Foundation

Collins Diboll Foundation

Whitney National Bank

CURRICULA: Course Descriptions, 9th & 10th Grade

Integrated Sciences

Level I: ***Foundations of Algebra and the Natural World***
Integrated Math and Sciences I explores the fundamental building blocks on which mathematics and science are based. Science includes a focus on human perception, the physical and chemical properties of matter, and the physical aspects of the universe. Math fosters a strong understanding of algebra – single variable algebra and linear and quadratic functions. Essential questions include: What methods can be used to solve problems? How can different types of data be enlightening? How does one carry out research? How do the applications of science and math impact and inform daily life?

Level II: ***Beauty and Order – Patterns, Systems and Relationships in Life and Geometry***
Integrated Math and Sciences II engages students in the exploration of patterns and systems of biology, environmental science and geometry with the goal that students also understand the interconnections and uses between these disciplines and with the humanities and the arts. Science focuses on what it means to be alive: from microscopic and macroscopic organisms to ecosystems (local and global) that support life and the energy used to sustain it. Math uses inductive reasoning to identify patterns and make predictions and deductive reasoning to prove relationships and build our geometrical understanding to solve real-world problems.

Integrated Humanities

Level I: ***Beginnings, Our World from the Big Bang to 1400 CE***
Integrated World History and English begins a four-year journey that explores the development of humanity across the globe. The goal of Level I is to understand the ways in which early people used agriculture, technology, mythology and other forms of expressive culture to both survive in and make meaning of their world. A focus is on themes that link people through place and time, and the societal processes that create them, as well as on evidence available during each period of study, such as artifacts, literature, primary documents and artistic creations. Essential questions include: What does it mean to be human? How do we know when something is "true"? How do humans use creation to express their understanding and beliefs about themselves and their world? What forces caused early humans to spread around the globe? Students will develop the ability to construct original works in four major types of writing: reflective, analytical/argumentative, creative and research.

Level II: ***Encounters and their Consequences, 1300 – 1700 CE***
The period of 1300 – 1700 CE was characterized by an outburst of complex international political, cultural and biological exchanges, particularly in the circum-Atlantic world, but also in the Middle East and Asia. As Afro-Eurasia and the America's collided, this became one of the most crucial and formative periods in human history, laying the groundwork for the present in many specific and tangible ways. The curriculum explores a) the complex chain of causes and effects that first led to these encounters, b) the consequences – historical, political, environmental, cultural, economic, social and ethical – of this collision, and c) how the present is still influenced by these events. Essential questions include: What did it mean to be human "on the shores" of Americas, Africa, Asia and Europe at the cusp of the 14th century? How were literature and the arts transformed by these exchanges on formal and thematic levels? How is this time in history remembered and to what ends? Students will develop the ability to conduct ambitious historical research and accurately identify and interpret diverse print and digital sources.

HABITS OF MIND

The Academic Studio instills strong analytical, creative and evaluative skills as a foundation for students' academic and life-long success. These include:

Integrated Sciences
- Problem solving using math & science as techniques
- Hypothesis testing & building successful exploration strategies
- Perseverance
- Self & group critique
- Precision in writing & building arguments

Integrated Humanities
- Identify & use evidence
- Develop clear & strong narratives
- Critically analyze both your own & others' work

9th & 10th GRADE ACADEMIC STUDIO COHORT

The 9th and 10th grade Academic Studio classes represent the full range of learners and mirror the full population of students. Some Academic Studio students come from private elementary schools, some from failing schools and deep poverty. The 9th and 10th grade demographics (as of October 1, 2012) are as follows:

- **total number of students is 119;**
- **43% of students reside in Orleans Parish; 30% reside in Jefferson Parish, 11% reside in St. Tammany;**
- **69% attended public elementary schools;**
- **45% are minority.**
- **32% are on the free/reduced lunch program;**
- **41% required support from The NOCCA Institute's Financial Aid program to attend.**

FOUNDING FACULTY

Ms. Jennie Guidry (Mathematics) holds a B.S. in Mathematics Education (2005) and an M.A. in Gifted and Talented Curriculum and Instruction (2006) from Louisiana State University. Prior to NOCCA, she taught all levels of math at a private school in Baton Rouge where she served as Mathematics Department Chair and oversaw the school's successful re-accreditation process. Jennie brings to NOCCA a passion for mathematics education and curriculum development as well as a strong background in one-to-one laptop environments and technology integration.

Dr. Kate Kokontis (History and Social Studies) earned her B.A. from Yale in Theater Studies and Visual Art (2004), a post-baccalaureate certificate in Painting from Studio Art Centers, International (2005), and her Ph.D. from U.C. Berkeley (2011). At Berkeley, she taught undergraduate courses about critical race studies, representational practices, knowledge production, and writing, and her visual artwork has been shown at galleries in New Haven, Florence, and the Bay Area. She is working on a book project emerging from her dissertation, *Performative Returns and the Rememory of History: genealogy and performativity in the American racial state*. At NOCCA she also co-facilitates the Plessy Project Student Working Group and the Academic Studio Leadership Council.

Dr. Thomas Spreelin "Spree" MacDonald (English) holds a Ph.D. in African Arts and Literatures from Ohio University's School of Interdisciplinary Arts (2010), as well as an M.A. in International Affairs/African Studies from Ohio University (2006), and a Bachelor's Degree in Secondary English Education from Northern Michigan University (2001). He has taught and mentored students at all levels, including with the American Reads Program, the Upward Bound Program, the U.S. Peace Corps in South Africa, and at Ohio University, where he taught courses in English and African Studies. As a scholar Spree has published a number of essays on African and African Diasporic literature, performance and philosophy, and has held several research fellowships, including four Foreign Language and Area Studies Fellowships from the U.S. Department of Education, the Anthony Trisolini Graduate Fellowship and the I. Hollis Parry/Ann Parry Billman Fine Arts Award. As a poet, Spree has published in journals such as *Poydras Review, Danse Macabre, Symmetry Pebbles* and *Timbila Journal of Onion Skin Poetry.*

Dr. Dan Webre (Science) earned a B.S. in Chemistry with a concentration in Biochemistry at Duke University (1994) and a Ph.D. in Chemistry from Princeton University (2005). In addition, he has pursued an interest in writing through both an M.A. in English Literature (2008) and an M.F.A. in Creative Writing (2010) from McNeese State University. He has taught and developed courses in introductory sciences and introduction to academic writing at area institutions, including Xavier University, McNeese State University, Baton Rouge Community College and River Parishes Community College.

YEAR TWO LEADERSHIP AND FACULTY

Mr. Brian Dassler, whose responsibilities as Chief Academic Officer include leading NOCCA's Academic Studio, is a recognized former teacher and principal. Brian is a two-time graduate of the University of Florida (B.A. 2001 and a M.Ed. 2002) where he was named an Outstanding Young Alumnus twice and where he is currently a doctoral candidate. In 2006, while teaching at Stranahan High School, Brian was named teacher of the year in Broward County, Florida, the nation's sixth largest school system. The youngest person ever to receive the award, Brian taught English for five years and was also a founding teacher of the Urban Teacher Academy Program. Most recently, Brian was the principal of KIPP Renaissance High School, a part of the nationally recognized KIPP network of public charter schools. A member of the Bywater Neighborhood Association board of directors, Brian is also a member of the boards for Breakthrough Collaborative, formerly Summerbridge, and A Shared Initiative, Inc. Brian is an alumnus of the New Orleans Regional Leadership Institute and a board member of the Leroy Collins Institute.

Mr. Byron Lilly (History and Social Studies) moved to New Orleans in 2003, following a two-year commitment to the Peace Corps in Mali, West Africa. He holds a Bachelor's Degree in American Studies from The Evergreen State College in Olympia, WA (2001) and a Master's Degree in U.S. History from Tulane University (2009), where he is currently an interdisciplinary doctoral candidate. In addition to his scholarly pursuits, Mr. Lilly is a master carpenter who, in the years following Hurricane Katrina, operated a contracting company while also pursuing an interest in urban farming.

Mr. Michael Moore (English) is a 2012 alumnus of Xavier University's Master's of Arts in Teaching program. Born in Brooklyn, NY, Mr. Moore spent some of his education in New Orleans public schools before graduating with a Bachelor's Degree in Business Administration with an English minor from Florida A&M University (2004) in Tallahassee, Florida. He previously taught middle school English at Martin Behrman Charter School Academy of Creative Arts and Sciences, one of New Orleans's highest performing public schools. Mr. Moore is also a performance poetry artist and actor, and has self published a book of poetry under his nom de plume, "Quess?" He helped found Team S.N.O., New Orleans' first adult slam poetry team since Hurricane Katrina. The team was recently named the top slam poetry group in the United States. His passion for educating is equal to his love for the arts. He is especially enthused about being able to co-mingle the two in an environment as conducive to both artistry and intellectualism as NOCCA's.

Dr. Kit Nelson (Science) earned a B.A. from the Paracollege (tutorial and evaluation based educational system) at St. Olaf College in 1994. She completed her M.A. in Anthropology at Northern Illinois University (1997) and went on to earn her Ph.D. in Anthropology from Southern Methodist University (2001). She worked for Tulane University for 9 years, during which she taught undergraduate and graduate classes, mentored students, and conducted archaeological fieldwork in Egypt, Peru, and the American Southwest. For her dedication to students in the classroom and the field she was awarded the Newcomb Distinguished Faculty Award (2010). She is currently carrying out archaeological research in Belize and publishing her results from past projects.

Ms. Noelle Reznick (Mathematics) is a native of New Orleans and graduate of Louisiana State University with a Bachelor's degree in Mathematics (2000). She has earned a Master's Degree in Curriculum and Instruction from LSU (2001) and a Master's Degree in Educational Leadership from the University of New Orleans (2011). Ms. Reznik has taught middle and high school mathematics across South Louisiana and enjoys the art and science of curriculum design, having designed multiple courses through her work as classroom teacher and instructional coach.

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Mr. Kyle Wedberg, NOCCA President & CEO, holds a B.A. from St. Olaf College and MPA from the University of Massachusetts, Amherst. With a career focused on education and public service, he came to N.O. in 2007 as CAO for the Recovery School District. He joined NOCCA in 2008. A former City Year site development director, Kyle now serves on the City Year Louisiana Advisory Board, New Orleans Public Belt Commission, GNO Inc. NextGen Council, and New Orleans Regional Leadership Board.

DOMAIN PARTNERS

Michael V. Wallace, Ed. D. is a history education consultant whose career includes secondary and collegiate level teaching, curriculum development, teacher workshops, and state and national panel presentations. As co-director of Arts Voyage, an arts-in-education collaboration, Dr. Wallace helped to create a humanities-based program of arts infusion for a public school district. As faculty associate for the Institute for Writing and Thinking at Bard College, he created a workshop on historical thinking through writing. He has presented papers and written articles on teaching methodologies and curriculum and is the co-author of the high school textbook *Practical Politics and Government.* Dr. Wallace's B.S degree in history is from St. Joseph's University; his M.S. in Education was earned at the University of Pennsylvania; and his Ed.D. in history and social science education is from Temple University.

Daniel L. Smail, Ph.D., serving as a consultant on curriculum development, is Professor of History at Harvard University. A student of early history, Dr. Smail is the author of *On Deep History and the Brain*, in which he lays out a bold new case for bringing neuroscience and neurobiology into the realm of history. He also researches and writes extensively about European medieval history. Dr. Smail earned his MA from the University of Wisconsin and completed his Ph.D. at the University of Michigan before teaching at Fordham University for ten years. He joined the faculty at Harvard in 2006.

Exploratorium Museum of Science, Art and Human Perception – Chosen as our domain partner for the development of the science curriculum, San Francisco's Exploratorium was founded in 1969 by physicist Frank Oppenheimer. Oppenheimer viewed art and science as complementary ways of exploring the world, and incorporated both into the Exploratorium from its earliest days. In addition to the museum filled with hundreds of exhibits designed to help young and old become an active explorer, the Exploratorium maintains a website filled with over 25,000 pages of content and presents countless events and camps for kids, families and adults. They also create professional development programs for educators, and are at the forefront of changing the way science is taught as well as understanding how people learn. They share exhibits and expertise with museums and educators worldwide.

Linda Shore, Ph.D. is an Exploratorium Staff Scientist (astrophysics) and the Director of the Exploratorium Teacher Institute. She earned a doctorate in science education from Boston University (1991), with a research emphasis on science teacher learning and the impact of teacher classroom practices on student learning. Shore is the author of numerous articles on popular science, student learning, and teacher professional development. She is also the co-author of the award winning "Science Explorer" series of activity books for children and their families.

Henry Segerman, Ph.D. is currently a post-doctoral researcher at the University of Melbourne where he concentrates on topology and 3-dimensional geometry. He earned his Master of Mathematics from the University of Oxford, his doctorate from Stanford University, and completed post-doctorate study at the University of Texas at Austin. He is a member of the Academic Studio's international Advisory Council, as well as the New Media Consortium, an international organization which explores the use of new technologies on learning and creativity. He is a regular presenter at the international Bridges Conference on the interactions between math and art.

Angela Housand, Ph.D. domain partner for English, is a specialist in the Schoolwide Enrichment Model for Reading (Reis and Renzulli, 2005), a program which has earned national recognition for its ability to develop booklovers among the current generation of "wired-in" students. Dr. Housand's area of expertise includes student mastery of self-regulation skills. She focuses on helping students develop their own learning projects in a digital environment. Dr. Housand received her doctorate in Educational Psychology and Talent Development from the University of Connecticut in 2008. She is an Assistant Professor at the University of North Carolina at Wilmington. She also has a degree in Architecture from Kansas State University.

Math Advisors:
Michael Starbird, Ph.D. University Distinguished Teaching Professor, University of Texas at Austin

History Advisors:
Robert Bain, Ph.D., Associate Professor in the School of Education and History, Chair of Secondary Education, University of Michigan

Gary Nash, Ph.D., Professor of History, University of California Los Angeles; Professor Emeritus Princeton University

Teofilo Ruiz, Ph.D., Professor of History, University of California Los Angeles, Recipient of the 2011 National Humanities Medal.

Sam Wineburg, Ph.D. Professor of Education and History, Stanford University

Collective Invention helps leaders of innovation create, articulate and implement visionary futures. Their work integrates relevant research, design thinking, and collective wisdom. Much of Collective Invention's work focuses on breakthrough approaches to education, health, and environmental sustainability. Collective Invention is a multi-disciplinary team that leverages insights from anthropology, architecture, design, performing arts, media, and business. Based in San Francisco, they work internationally for both profit and nonprofit organizations, including philanthropies, NGOS, corporations, and government agencies.