



**Too Many Cooks in the Kitchen?
No Such Thing.**

Modern Food Culture and the Rapid Rise
of Culinary Arts Education Facilities



We inhabit the Age of the Foodie, and it's sending people back to the

kitchen.

Featured Project: Charleston Cooks, Greenville SC

Weary of convenience foods, tired of rushing through unsatisfying meal times, and craving something more nourishing to both body and spirit, people at dining tables across the country are rebelling one plate at a time. They're willing to invest in good food, and are looking for their investment to pay off somewhere around the intersection of "sustainable" and "delicious." Folks are getting serious about what they eat, how it's prepared, and from whence it came. Many people celebrate foodie culture from couches, if not in actual kitchens, as they tune in to watch rock stars of the culinary world showcase their skills through every form of media. From cooking shows to sleek glossy cookbooks to hugely popular food blogs, never before has information about how to cook been more accessible, more visible, and more widely published. Little wonder that home cooks are covering their iPads with flour while swiping through recipes next to the stove. The public can't get enough.

As this rising interest in good food and its preparation meets a very pragmatic force, the New Economic Normal, a significant trend emerges. In the aftermath of the Great Recession, by necessity or by choice, a huge

swath of the workforce is returning to the classroom to learn new skills. Many of these career changers are following their passions and taking to the kitchen. It's likely to be a wise move. While many industries have stalled in recent years, if not crumbled outright, the restaurant industry is growing, and is currently the nation's second-largest private sector employer. The number of jobs for chefs, head cooks, and food preparation workers is expected to increase by 9% by 2020, substantially outpacing projected gains in other industries. Little wonder, then, that classrooms at culinary institutes these days are full-to-bursting. The increase in demand is remarkable, but hardly surprising.

CASE STUDY: culinary institute of charleston

Who, exactly, are these aspiring white-clad chefs filling our schools? Mike Saboe, Dean of the Culinary Institute of Charleston (CIC), knows them well. The CIC is where aspiration meets kitchen, where tomorrow's chefs learn how to hold a knife and craft a hollandaise. Unlike the typical culinary student a few years ago, many of the students in today's culinary arts programs are at least a few years older than traditional students and come with work experience outside of the classroom. Many hold advanced degrees in another discipline, and are returning to school to realize a long-held dream. These students are as likely to be gathering skills to start a new business venture as they are to be seeking employment.

All of them have one thing in common: they love to cook.

Saboe does, too. He started his career in the hospitality industry as a college student in 1985, as a server at some of Charleston's finest restaurants. He worked his way up from waiter, to general manager, to restaurant owner, to teacher. He was working as an instructor at Trident Technical College in the Hospitality, Tourism, and Culinary department when the new culinary complex opened on the college's main campus in 2005. Saboe was then promoted

to Director of Operations, and the new complex became the Culinary Institute of Charleston. When the Palmer Campus renovation opened in 2008, Saboe became Dean of the CIC. He knows what a top-notch culinary arts program can do for its students, for the college, and for the community, and one of his critical roles as Dean is to be an ambassador to the community, a liaison to the industry.

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Mike Saboe, Dean of the Culinary Institute of Charleston (photo by Post and Courier)



synergy

As the CIC program has grown exponentially since its beginnings more than 25 years ago, the college has seized opportunities not only to occupy more space, but to occupy better space. Enter LS3P, a Charleston-based architecture firm with a history of success across a variety of markets in its 50 years in practice. LS3P was a natural fit for the design of the CIC's culinary arts facilities, with a 35-year working relationship with Trident Tech on numerous projects and an extensive knowledge of best practices for food service design. LS3P's diverse expertise in higher education, restaurant, commercial, and hospitality design is invaluable in the design of an educational facility for the culinary arts, where all of these building types converge. In addition to its extensive work at Trident Tech, the firm has designed state-of-the-art culinary teaching facilities for Johnson and Wales of Charlotte, Central Piedmont Community College, and they are currently working on the design of Culinary Institute of Myrtle Beach for Horry-Georgetown Technical College with the local architect Mozingo+Wallace. LS3P's proven track record with both culinary and commercial projects has also attracted such clients as "Charleston Cooks! Maverick Kitchen Store," a retail store offering gourmet cooking classes to the public; and Le Creuset, the French high-end cookware retailer which recently located its USA headquarters to an LS3P-designed space in Charleston.



With this extensive portfolio in mind, the CIC turned to architect Richard Bing of LS3P's Charleston office when it was time to create its main campus facility in 2005, and again for the renovation of the Palmer Campus facility in 2008. Food service consultant John Sousa of Crabtree McGrath Associates, Inc. of Boston joined the team for the Palmer Campus renovation in 2008, having worked with LS3P on the design of the Central Piedmont Community College Culinary Building and Johnson and Wales in Charlotte.

Saboe, Bing, and Sousa make an excellent team. Each of these key players was critical to the success of the project; Saboe contributing his extensive knowledge of the CIC's daily operations and long-term visions, Bing offering over 20 years of commercial design and project management experience, and Sousa adding up-to-the-minute expertise regarding kitchen equipment, technology, and functions. Like the design of a great meal, the design of a culinary arts facility is no small challenge, and it comes with many variables. The new Palmer Campus space needed to be part college, part commercial kitchen, and part public venue. It needed to provide flexibility for evolving courses and technologies, offer visibility for both instruction and public interaction, and promote sustainability in terms of resources, budgets, and long-term viability.

history

Trident Tech has had culinary training courses since 1987, enrolling around 150 hospitality, tourism, and culinary students a semester at its downtown Palmer Campus location. After the renovation of a former food storage warehouse, 1960's vintage, the program expanded to the college's main campus designed by LS3P in North Charleston in 2005. With this new dedicated facility, the program became the Culinary Institute of Charleston. The program continued to grow in popularity and enrollment, a trend which further accelerated when Johnson & Wales University relocated its culinary arts program from Charleston to a new facility (also designed by LS3P) in Charlotte in 2004. The CIC added 5 advanced degree programs to its curriculum, and renovated 22,000 SF of space in a former high school building which also houses other programs for TTC on the Palmer Campus to provide state-of-the-art spaces for its 2008 expansion.

The Main Campus facility continues to train students in the basics, with kitchens for teaching, production, baking, and catering; dining facilities and event space; and an amphitheater-style demonstration kitchen. The Palmer Campus facility features specialized facilities including a training kitchen, a production kitchen, a 50-seat restaurant, an artisanal baking lab, a mixology classroom, and



Related Experience: LeCreuset Headquarters, Charleston, SC

a nutrition kitchen/research and development lab. A 125-seat auditorium is designed for state-of-the-art instruction, but has become a popular spot for community social events as well. All of this space is heavily utilized, as the program has experienced a tenfold increase since its 1987 beginnings. The program boasts 1,100 students this semester.

The whole campus enjoys the benefits of this thriving department. The CIC provides opportunities for the students from all curricula

to observe, connect, and enjoy the success of its culinary arts program. Its popularity helps to build relationships, and adds to the school's reputation and visibility in the wider community. Saboe is grateful for, and committed to, this community connection. He welcomes the foodies who "love to dabble in the kitchen and are enthralled by what we teach," acknowledging that the word "culinary" has a very high romantic appeal to the general public. He's delighted to build on this rising interest, forging connections between food programs and food lovers. He knows it's a win-win proposition: the public gets to peek behind the curtain and see how things are made; students get exposure, support, and practical skills; and the CIC gains in recruitment and awareness.

flexibility

The need for flexibility is part art, part science, and part common sense. Changing palettes, changing priorities, and changing trends all mean that menus must be able to adapt rapidly to shifting culinary tides. Consumers' demand for healthier, fresher foods has a direct impact on the selection of kitchen equipment. Bing points out that fresher ingredients demand larger, more flexible spaces for preparation and storage. "Flexibility in menu construction is paramount in a modern foodservice, and a direct correlation with the equipment selected," he tells us. The fusion of techniques from international

cuisines also requires specialized equipment and valuable counter space.

Saboe explains the greatest challenge in designing a culinary arts kitchen: in order to be effective in an academic setting, instructional spaces must be designed with very specific functions and competency outcomes in mind. These very specific functions, however, may need to change weekly. "For example," he tells us, "we designed a lecture-based, functional nutrition kitchen that could serve as a flexible generic, continuing education kitchen. Its main function was deconstructing dishes and focusing on how to reconstruct them using healthier, more affordable options. It is part classroom and part lab. In this kitchen, flexibility and mobility have proven very successful. The equipment and layout can be changed weekly. " They usually are. LS3P designed ten such kitchens for the CIC, all tailored to specialized use, but able to adapt to changing needs. "All of these are flexible," Saboe tells us, "and if necessary, can be adapted to our growth in one particular area; for example, Baking and Pastry has surged over the last two years. "

Ever aware that technology evolves at least as quickly as menus do, the LS3P team employed a number of design strategies to ensure that these

"They, (future chefs) in turn, will begin to influence how kitchen designers and architects design foodservice facilities."



facilities will be ready for anything that technology is able to cook up next. Bing and Sousa utilized utility distribution systems (UDS) throughout the kitchens that allow quick disconnects and replacements for kitchen equipment without expensive, time-consuming rewiring and repiping of electrical and gas connections. Other common-sense strategies such as high, clear structural spans accommodate adaptability and ease of relocating equipment as necessary.

visibility

In addition to being nimble in its ability to adapt, a culinary arts kitchen also requires something a standard commercial kitchen might not: a layout designed for teaching and learning. Visibility,

circulation, and acoustics all become important elements in a room full of new chefs. LS3P prioritized sight lines, gathering spaces, adequate room for ingress and egress, and storage for students' personal items at the earliest stages of design. The challenges become more complex as various culinary functions are added. Non-slip surfaces and efficient work spaces are important in any commercial kitchen, but quickly become critical in a space filled with students learning new skills (and holding knives). Although instructors generally circulate among student workstations for instruction, additional gathering space is required around kitchen equipment for demonstration purposes. Student kitchens also need more storage space than one might think. Instructors must be able to teach a particular lesson, and then store the related materials and equipment and move on to another skill quickly. Education requires a great deal of space.



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Better equipment certainly helps, though Bing notes that careful mechanical systems coordination is also necessary to control sound. LS3P was careful to locate HVAC equipment away from all teaching labs, and the team detailed vibration isolation for the exhaust fans so that sound from the equipment does not transfer through the building structure into the teaching and other public spaces. Sound-rated demising walls also help to isolate sound. Kitchens require acoustical ceilings for sound absorption, with scrubbable tiles and corrosion-resistant suspension systems. As Saboe reports, in a facility with high-volume use 15 hours per day, this level of effort is well worth the investment.

Background noise in a kitchen is always an issue. Clattering pans and whirring mixers convey a sense of cheerful productivity - and make it harder to hear. Add the constant hum of hoods over the student ovens, and noise becomes a significant factor. Sousa and Bing used a variety of strategies to minimize noise, starting with top-of-the-line hoods which are quieter and more efficient than hoods of the past. “These features are raising the bar across the industry,” Sousa tells us. “As these modern culinary facilities train our future chefs, they will expect quieter hoods and overall more pleasant

Above and beyond noise control, another instructional tool is facilitating communication in the classroom: integrated technology. From standing-over-a-hot-stove to listening assiduously as a local chef demonstrates a mouth-watering technique, integrated A/V equipment makes it easy to record, replay, discuss, and share the information. Instructors may choose to record student work for analysis, or post videos of lectures for later viewing (or even campus-wide access). When the instructional mode shifts from participatory



“The biggest difference in HVAC energy use for large kitchen spaces is the need to introduce outside air into the spaces for ‘make-up’ air due to the exhaust from the hoods,” he tells us. “Recent innovations in hood design allow us to vary the air volume as needed, instead of having the hood full on or full off. In warmer climates, tempering or dehumidifying the make-up air may be desirable in order to reduce heat and humidity in the kitchen.” Other high-efficiency equipment

strategies such as solar hot water preheating to achieve a significant reduction in energy usage. A central water filtering plant is often provided for all fixtures used in food and drink production, which makes plumbing water distribution less costly than many point-of-source filtering systems and is easier to maintain.

It’s not just about energy conservation anymore; sustainability is a multifaceted concept. “How we think about the impact on the environment has changed,” explains Sousa. “Instructors and students are thinking about recycling, reducing and reusing kitchen waste.

“It’s not just about the energy conservation anymore...”

instruction to demonstrations, a crowded kitchen is less than ideal, so the school’s swank 125-seat auditorium kitchen is in high demand. Equally suited to lectures, demonstrations, and competitions, this space features cutting-edge equipment from Gaggenau, Thermador and Bosch, with both natural gas and induction heat cooking surfaces. Integrated A/V equipment in the space is high-definition and broadcast quality, with projected video viewed on an 8’ x 15’ screen and with LCD screens capable of displaying intricate demonstrations to a crowd. This requires a dedicated sound-isolated AV control room, and allows the school to record events for instruction, or to produce media materials which showcase the students’ talents.

internet offers convenient data access in the kitchen, and culinary technology tools impact everything from recipe accuracy to combined cooking techniques to safer food handling. “Equipment will evolve and become more computerized and smarter,” predicts Saboe. “The challenge will be for more training, which is why industry and education need to be invested in a collaborative approach. CIC has taken on the idea of being a R&D location to get out in front of these new technologies.”

sustainability

These new technologies give the facility a boost in another key area as well: sustainability. Bing explains that equipment such as variable volume hoods can now achieve significant energy savings over conventional systems.



Related Experience: Caviar & Bananas, Charleston, SC

Advances in kitchen technology are not, of course, limited to A/V equipment. Wireless

“ Waste management offers a huge opportunity to boost sustainability in the kitchen. Saboe talks about the concept of Zero-Waste Stream, which includes composting, farming and greening. “Composting on some level is very important to teach as a lesson for our students. It can be a management problem on what to do with the product during the composting stage...and how to overcome unintended consequences like possible rodents.” It’s not the most appetizing part of the culinary process, but it’s a real-world, boots-on-the-ground issue. Bing notes that organic digesters are a possible solution for kitchen waste, reducing food scraps to grey water in the span of an hour through an energy- and water-saving process. Food composters are also a good option, especially for facilities with kitchen gardens or greenhouse.

Sustainable design is rapidly becoming an expectation rather than an afterthought, and the CIC is no exception to this trend. The LS3P team mapped out sustainability strategies long before the hoods were selected and composting systems discussed, though. Both CIC facilities were adaptive re-use projects, recycling older structures and giving them new life. The former food storage warehouse which currently houses the main campus programs required extensive analysis and an overhaul of existing systems, but it also had a large footprint which was ideal for the large program, and came with a high-bay structure and a loading dock. The former

high school which currently houses the Palmer Campus programs occupied a constrained urban site, but large south-facing windows which were advantageous for daylighting the space. The design team added an external brise-soleil to control heat gain, while an internal light shelf reflects natural light deep into the building. Existing windows were replaced with low-e coated double-glazed windows to improve efficiency. Revitalizing these buildings conserved construction materials, reduced the amount of demolition, minimized the landfill impact, capitalized on existing site connections, and took advantage of proximity to pedestrian and transit connections within vibrant campus areas. All of these factors helped the team to create more sustainable facilities, not just in terms of construction but also in terms of long-term efficiency and cost effectiveness.

viability

Sustainability, of course, extends beyond the basics of recycling, reducing energy use, and conserving water. In the long view, it’s about larger issues as well: healthier eating, healthier food systems, and a healthier population. A healthier restaurant industry, and a healthier city.

This brings us full circle. As Saboe states, the very reason the CIC exists is ultimately about big-picture sustainability. For the CIC to operate, it must be economically viable, stay relevant, and contribute to a thriving community. That’s



Related Experience: JJ's Cafe, Charlotte, NC

why the community doesn’t just observe at CIC. The public tastes.

Demand for a table is high in the 50-seat dining room lab, where students practice their skills in a real-world, fine-dining environment. When your school is located in one of the world’s great food cities, the bar is set extremely high. Not to worry. CIC students rise to the challenge, serving changing seasonal prix-fixe menus to culinary community eager to fill their tables. The auditorium, pre-function, and fine dining spaces are also popular destinations for Low Country events, and are designed for high-profile public uses. LS3P prioritized finishes in these community spaces, with durable detailing and rich millwork. The pre-function gathering area and the auditorium

feature quartered figured Anigre wood, which makes the space warm yet dynamic space. Bright colors, inviting fixtures, and sumptuous table settings all create a welcoming, well-appointed gathering spot for students, faculty, the culinary community, and the wider community.

These spaces exist to showcase the superior skills of CIC's students. This showcasing of talent, in fact, is the fun part, and the best kind of community interaction. Tasting, competing, and sharing; harnessing the enthusiasm of the wider community. "Much of the 'back of house' production work is coming to the front," Sousa tells us of the industry. "People are fascinated with the process. People want to see the food being made. This is also the best way to showcase the program to future students." Today's cooking labs welcome observers, with large windows from public corridors or, in some facilities, sidewalks. When LS3P designed the culinary arts facilities for Johnson and Wales in Charlotte, the team aligned the teaching kitchens with sidewalks, creating a dynamic connection to street-level activity in this bustling pedestrian neighborhood. This puts on display the excitement created by the spaces at the heart of the facility," Bing tells us. The community loves to experience the process.

"The community is the reason we have the resources to improve training and development, and we take that role very seriously," Saboe

reminds us. "Our number one goal is workforce development for our community of Charleston, SC and the three counties we serve." He cites the school's 25-year history in Charleston, the relationships the school has fostered, and the extensive community involvement of its representatives. "Our two dining rooms bring many people to the campus for lunch. These dining rooms have evolved into the school's heart and soul, where customers sit in the dining room and watch the students work. We also offer kid's camps to continue the word of mouth marketing about how our program impacts the economic development of Charleston."

This last point is a critical one: Charleston is a serious foodie destination, and the culinary industry is vital to the health of the city's tourist economy. Charleston, in fact, frequently tops the rankings for culinary destinations in the country in publications such as Condé Nast and Travel + Leisure (often ahead of culinary dream cities like San Francisco, New York, and Chicago). "This is an unbelievable city, and we are right in the heart of the success of this food movement." Saboe tells us. "Our graduates and students work in this field every day."

He is keenly aware that for any school to be viable, let alone effective, it must contribute to its local economy. Saboe listens to the industry, from college advisory board members to head chefs. The CIC works ceaselessly to keep abreast of the



skills employers need, and develop those skills in CIC students. This dedicated approach keeps the curriculum relevant, strengthens relationships within the industry, and ensures that CIC students are always in demand. It's why the CIC provides state-of-the-art facilities in which students can master their art, and gives them opportunities to share their skills with the community. The CIC plans to keep doing exactly that.

and it's delicious.

