Culinary School for Healthy Eating

Healthy choices without sacrificing taste.

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Thesis Project 2004-2005

CULINARY SCHOOL FOR HEALTHY EATING

A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
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By:
Angela Otteson

In partial Fulfillment of the Requirements
for the Degree of
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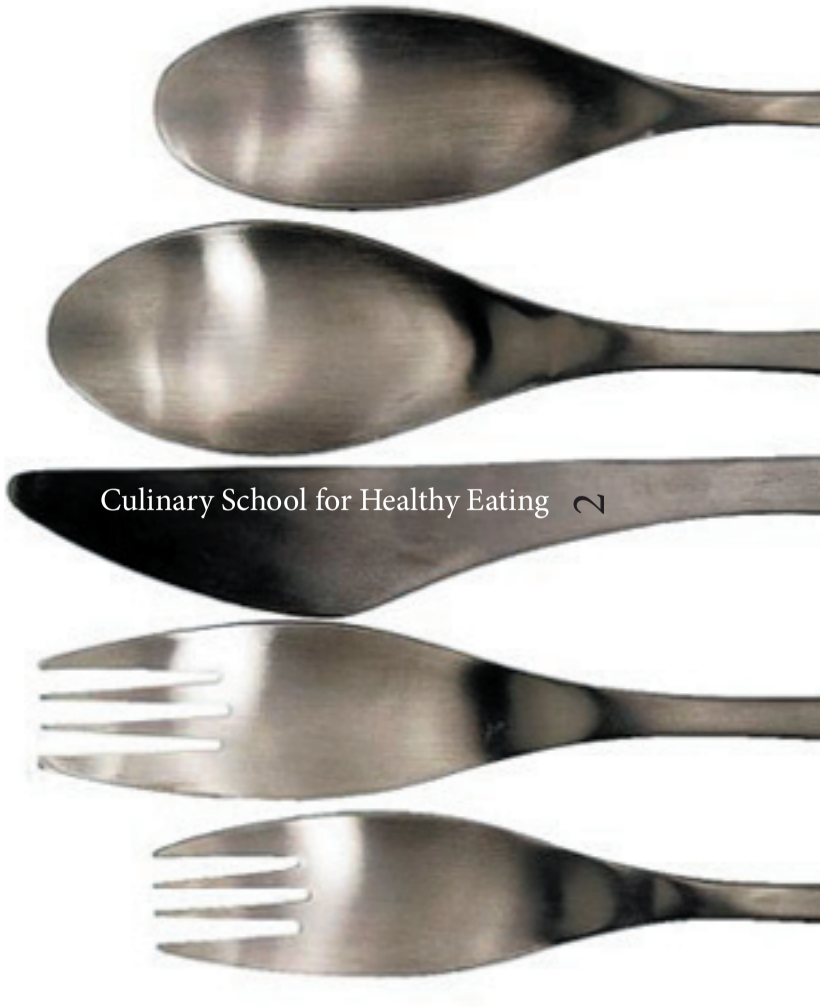

CULINARY ARTS

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By: Angela Otteson
North Dakota State University

CULINARY ARTS

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ABSTRACT

CIA recipie

An ounce of prevention is worth a pound of cure. Food is a very important aspect that can make a big difference in our lives yet is very often neglected. The main research area of this project will be designing a culinary school that keeps healthy living and a balance life as its primary objective. This will be seen not only in culinary instruction but the environment that they cook in as well. The site location for this project is in Bismarck North Dakota along the Missouri River. This project will be using partial adaptive use as there is already a deserted hotel conference building on the site. History will also play a role in the design of this culinary school. Over the years food preparation has changed dramatically. Researching the history of culinary development and how it has changed, will lead to an understanding of how food will influence architecture.

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GENERAL PROJECT DESCRIPTION

An ounce of prevention is worth a pound of cure. Food is a very important aspect that can make a big difference in our lives yet is very often neglected. For example, eating the right foods can prevent the risk of developing certain diseases such as cancer and heart disease. It is also helpful in treating diabetes and high blood pressure. Our society tells people if its healthy for you it will not taste good. It is time to change the way people think about healthier eating and good tasting meals.

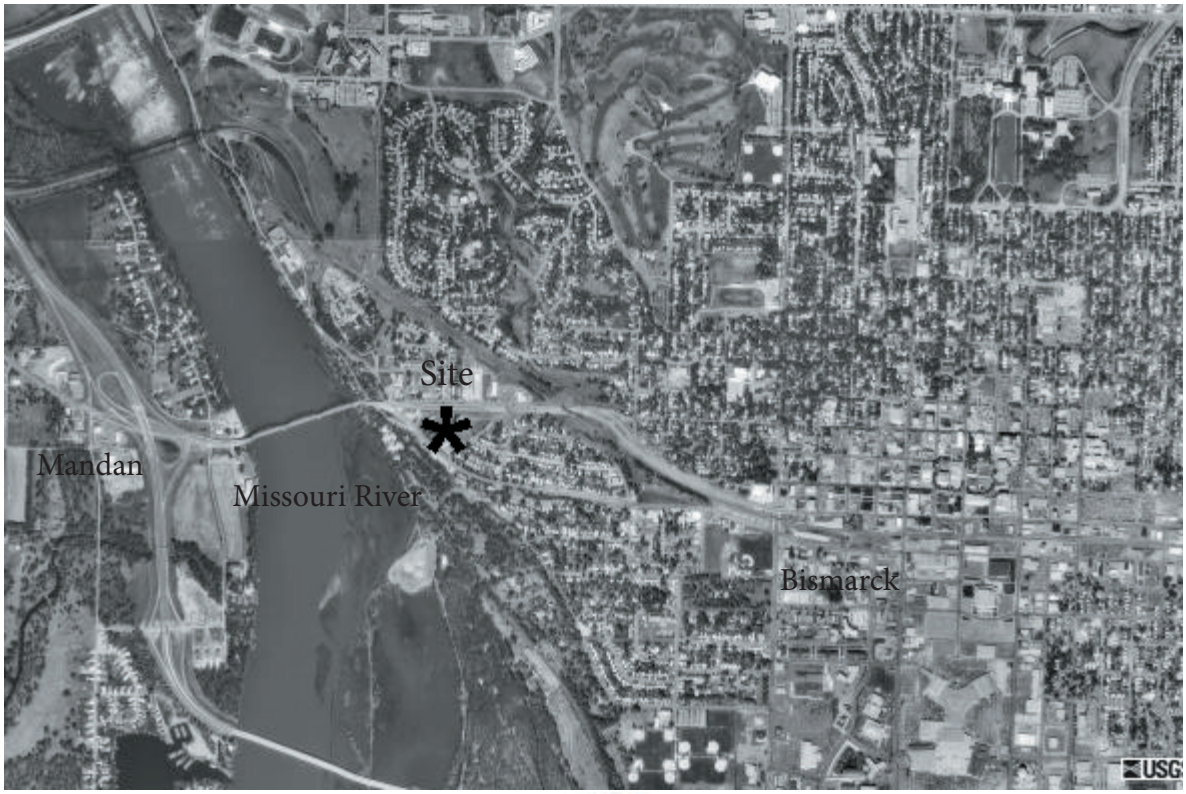
CIA recipie

The main intent of this thesis project is to design a culinary school that is well balanced. According to the food pyramid there is a hierarchy of foods and quantities that are healthy for a person. The design of this school will focus on being balanced not only in the food that is created, but in the architectural design and its natural surroundings. The project emphasis and theory will be based on this balance. This balance leads to my underlying premise which is the use of art in the proper preparation of food. Food preparation over time has evolved changing into what it is today. Much of my research will be in the history of food preparation and how it informs architecture.

SITE LOCATION

1215 W Main Ave.
Bismarck, ND 58502

Along the Missouri River.



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EXISTING SITE AND BUILDING PHOTOS

The front entry to the exsisting Palace Arms Hotel on Main Avenue.
The lower portion of the building was built first.

The concrete tower may be salvaged for the design. The structure is good and could be used. The parking lot is in bad shape and will definatly need to be replaced. The tower was built later on the south portion of the site.

The existing Lower Portion of the building has black mold and will be need to be torn down.

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DESIGN METHODOLOGY

The four design methodology categories are observation, literature, interview and photography. This design will use three of the four categories. Observation of the site will be the first thing that needs to be documented. Having a good understanding of the site is very important in the design process. Drawing analytical pictures of the site will be one of the main ways to show this research.

A large amount of literature has been used and will be used to aid in the design process. Case studies are one particular literary research that will greatly influence the design methodology.

The owner of the site has already done a lot of research into what could possibly be done one this piece of land. An interview with the owner of the property, Chad Wachter, and a discussion the potential of the site will provide insight into the design. The designs and methodologies used in the different restaurants around the Great Plains region can be an invaluable aid in the design process. Analyzing and observing the designs and the environment and feelings they provide will help to design a culinary school that effectively responds to the community.

UNDERLYING THEORETICAL PREMISE AND UNIFYING IDEA

CIA Recipie Taco Salad

There are three areas of emphasis in this design. The main emphasis is to design a healthy culinary school that is well balanced. Balanced is in the sense of healthy and environmentally friendly in every way. Prevention of illness in the food we eat will be weaved into every aspect of this building. The way the building is designed and constructed will have this balance weaved into it.

My second area of emphasis is the development of food over hundreds of years. People have changed in the way they prepare and eat food. Looking at this change will affect design.

The final emphasis is looking at the way people enjoy their dining experience. This includes everything from the entry into the eating place to the plate that you eat on. All the senses are affected in the dining experience.

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GENERAL HISTORY

The site of my project has a sorted history. Originally Holiday Inn built a very nice conference center on the site. Many Bismarck residents remember just how nice this particular convention center was at one time. The development the interstate north of town pulled the traffic away from this particular site. Slowly the Bismarck mall was developed some distance away from the downtown area and with the development of the mall came the movement of other hotels. The Bismarck Civic center is also located over by the mall and east of downtown. Having a hotel close to the civic center was also a commodity. Because of these shifting trends in downtown Bismarck a hotel on this particular site just couldn't survive. The road is still highly traveled by locals it just doesn't have the out of state traffic. Designing a culinary school on this site will draw people to it because of the education as well as the on site restaurant.

PROJECT DESCRIPTION

CONCEPTUAL UNDERPINNINGS

The underlying research that will affect most of my design is healthy eating and how it changes the preparation of foods. There is a balance between every source of food that we eat. Just looking at the food pyramid and how its servings are proportional to what we need for energy will drive what happens in a culinary school. Health research is changing all the time and this aspect of changing health concerns will show up in the need for a kitchen to evolve with new health food concerns and conditions.

Another area of underlying conceptual research is the history of kitchens in their transformation. There is great art and care taken in the preparation of food and research those transformations will greatly direct forms and architecture.

The final area of research is the ambience of restaurants and the experience that each person gets while dining. Looking at the artful presentation of all that surrounds a persons senses is something to take into consideration when designing this culinary school.

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MAJOR PROJECT ELEMENTS

Instruction Spaces:

Skills Kitchen
- Individual work stations. Here students would learn how to demonstrate skills and techniques a sort of study hall.

Demonstration Kitchen
- Auditorium setting for the observation by students and demonstration by instructors. This space is also used to teach the public healthy food information and recipes.

Advanced Kitchen
- Side by side work stations in an active kitchen environment where they complete tasks.

Intro Kitchen
- A kitchen to learn cutting techniques and basic sauces.

Garde manger Kitchen (Cold Kitchen)
- Where cold foods are prepared such as sal ad, pates, chaud-froids and other decorative dishes

Butchery Kitchen
- A kitchen specifically for getting meat ready for cooking.

Pastry Studio/Bakery
- Specific kitchen for the preparation and cooking of baked goods and pastries.

International Kitchen
- Used for learning international foods.

CIA Website

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Academic Spaces:

Library

- Culinary resources and perhaps a place to get away and study

General classroom

- Used for general lecture

Gallery

- Student work will be on display can also double as the formal hall. Another space used for banquets.

Computer Lab

- Technology worked into the curriculum with this lab also for student e-mail use.

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Administration:

Reception

- Guests who come for restaurant or lecture series will have direction from this person

Bookstore

- Purchase necessary cooking supplies that aren't supplied by school that are personal also able to buy books for required classes. Maybe used by the public as well.

Admissions Offices

- These offices are used for the faculty that deal with the fast turn over rate of students in the culinary programs.

General Education Offices

- There are required general education professors on this campus and these offices will support those educators.

Chefs Offices

- The bulk of the professors are chefs and these offices will support their needs.

Restaurant:

Full Commercial Kitchen

- Used for the on site restaurant and used by the students to serve the Bismarck community. Everything need in an off site kitchen will be included to teach complete restaurant experience.

Dinning room

- Seating for a large number of people. There also be specific host stations and wait stations.

Formal Hall

- Used for graduation ceremonies and other banquets that are at the school.

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Outdoor Spaces:

Herb Garden

- Regional herbs will be grown on site that can be used in the cooking of foods in the campus. Will help students to understand this aspect of cooking.

Terrace for outdoor dinning

- This space will be associated with the restaurant and used on a beautiful day for outdoor dining. Support Spaces:

Wine storage
Cold Storage
Dry Storage
Receiving
Restrooms
Mechanical rooms

User Client Description

The client for this culinary school is the students and community. The student body supports the school by attending and paying tuition and the community supports the culinary school by attending community focused classes and eating in the restaurant. Others that will be using this facility are the professors and other maintenance and faculty members.
The students will be able to get their certificates for baking and pastry as well as the culinary arts. Students will need access to both pastry kitchens as well as regular kitchens. Other support such as computer clusters library and bookstore will also be part of the school's requirements.

The community aspect of this school will focus on teaching healthy eating and food preparation. The school will have a special lecture hall providing demonstration and group instruction for this purpose. Community members will also be able to eat and taste food at the on site restaurant that will be operated by the students. This will be a great way for the community and the students to interact. The community will be encouraged to ask questions of the students and can learn more from them.

The culinary school will be designed for about one thousand students which will require about-sixty faculty workers. There will need to be ample office space and janitorial space to keep the school clean and organized. A staff of at least 3 janitors and maintenance will be needed due to the large kitchens and equipment. Since there will be about 60 staff, at least seven hundred parking spaces will be required.

Student Class hours	7:00am-5:00pm September-April
	9:00am-4:00pm May-August
Restaurant hours	4:00pm-11:00pm year round

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History of Kitchens

Prehistoric Times

In the desert oases and river valley of the Tigris and Euphrates and the Nile that men first tamed animals and began to breed them for food. The climate gave easier conditions of living and the soil was rich. Wild plants grew two or three times in a single year. We do not know the first plants to be cultivated but cereal grasses certainly came to be the most important and readily available. Grain, dried meat and fish were storable for families. There was free time because tame herds made for a lot of free time. Potter and weaving as well as metal work were gradually developed.

Many houses of early Jericho were large and the rooms were grouped around courtyards which were used for cooking. Several layers of hearths have been found here. Layers of clay were put over the old hearth because there ended up being too much grease and ash in the old hearth. The clay was then covered with a thin layer of plaster that was then polished to a shiny finish.

ROMAN BRITAIN

A sizeable roman house would have separate rooms for different purposes. Dining-room, kitchen, bedrooms and smaller rooms from the rest are a few. The dining room was inlaid with mosaic over a concrete base. The plastered walls were painted in bright colors the wooden furniture elaborate and elegant. The kitchen was nest to the triclinium, or dining-room. Where the diners reclined full length, supported on one elbow, on low couches and ate with the other hand from a low table. A stokehole on an outside wall fed a furnace with charcoal, from which heat spread in channels.

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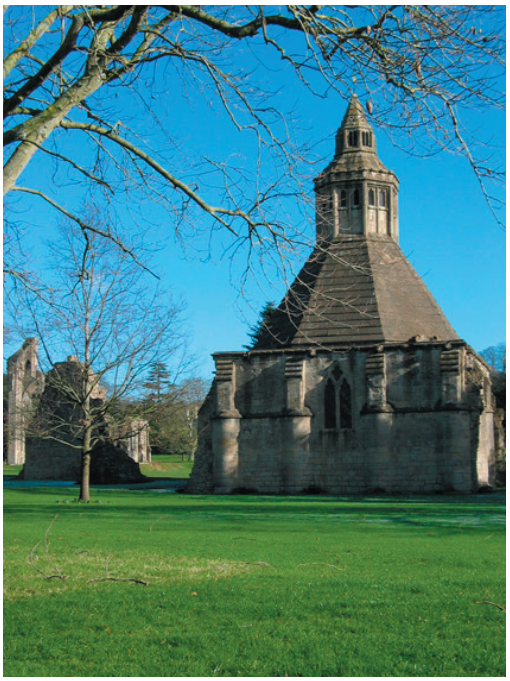
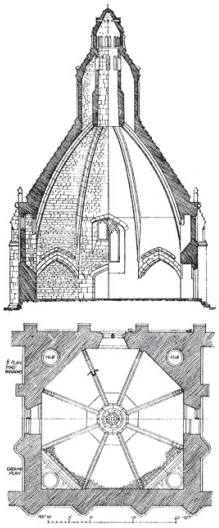
THE MIDDLE AGES

The middle ages were highly communal. This created a large number of people being served. The medieval abbeys spared no expense in building and equipping kitchens to fit the need of the brethren, and many guests who were entertained in the course of a year. Glastonbury was an abbots kitchen that had plenty of room to roast a whole oxen.





THE SIXTEENTH CENTURY

In the records of Hampton Court Palace there is mention of the great kitchen, the privy kitchen, cellar, spicer, buttery, sculler, ewery, saucery, ect… But of course Hampton Court was never a typical household.

English people have always been known as great eaters.

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THE SEVENTEENTH CENTURY

Voyages to the new world lead to the problem of lengthening preservatives. Smoking meat and drying need to last longer. Hams were smoked and cream was baked, sweetened and bottled. In the new land plantations started and a variety of food was brought to the land. In colonial Virginia basement kitchen were at first very common. As the colonists grew more prosperous homes of course became more comfortable and the kitchen was often built as a separate building, behind the main house. This allowed the family to be separate from the heat and smells. It was often a one-room structure with a large open fireplace and a dresser displaying whatever pewter and earth ware they had been able to bring with them.

The gradual replacement of wood by coal for domestic use mean, of course, a change in the fireplace, for it was impossible to kindle coal on a flat hearth.

THE EIGHTEENTH CENTURY

During the earlier part of the century, and later in old-fashioned households, cooking was still done at a large open fireplace or downhearth. Coal was coming more and more into use, but many women still preferred to cook with wood. Some people found coal fires difficult to start, and men who delivered the "coles" in towns often undertook fire-lighting as part of their services. The kitchen chimney was often cleaned by lighting a fire in it and letting it burn itself out. The main baking was done in a separate bread-oven heated with brushwood. When the wood had burnt away the ashes were raked aside and a batch of loaves or cakes put in.

The day of the great open hearth with its ornament fire-back was nearly at an end. At first bars were fitted horizontally between the uprights of the fire-dogs, to make a kind of basket called a "dog-grate". In 1780 a patent was taken out for the first kitchen range. It was a cast iron oven on one side and a boiler, for heating water on the other.

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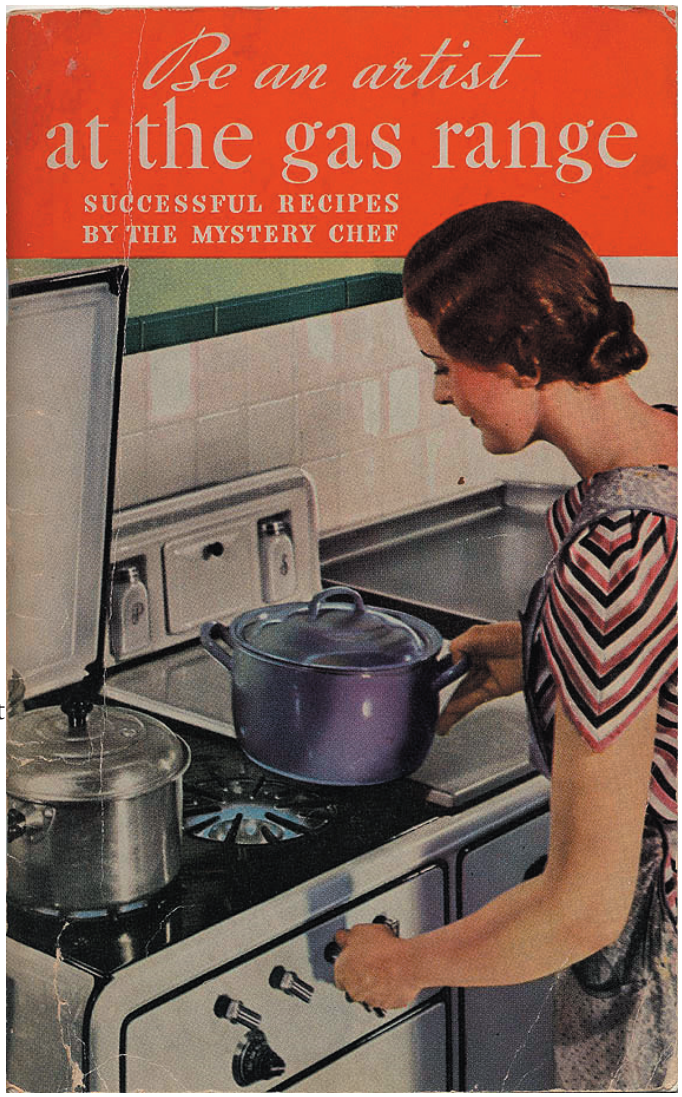
THE NINETEENTH CENTURY

The invention of the refrigerator was discoverend in the middle of the century and changed eating habits of both the rich and poor. Catherine Beecher wrote a revolutionary book, "The American Woman's Home". Miss Beecher stated that the kitchen should be like a cooks galley in a steamship. Every article and ustensil used in cooking for two hundred persons so arranged that with one or two steps the cook can reach all he needs. This is incontrast with the perviouse very large kitchens that you need to walk across to get needed utensils. The idea of built in storage and classified areas for certain equipment was a new concept she foresaw.

THE TWENTIETH CENTURY

During the second World War food was rationed and because of this the kitchen became a dreary place. There was pride in the creative preparation with just the ingredients they had. During the fiftys and sixties the kitchen became a much more domestic place. Refrigerators, pressure cookers, extractor fan, floor polishers, washing machines and dish washers are just a few. Because of these inventions there is less hard labor in the kitchen and more leasure time. Each woman is her own cook and this makes spaces smaller and the need for a much more acuratly desinged kitchen. The psychological affects of fresh air, sunlight and cheerful colours is just as important in the kitchen as it is in the rest of the house.



CULINARY ARTS

Nutrition Research: A Balanced Diet

Is There a Perfect Plan?

Many people yearn for and spend a lot of time and money seeking the perfect eating plan. An ideal diet would assure excellent health, provide energy and strength, and promote resistance to some diseases. It would delay aging and keep you at your ideal weight.

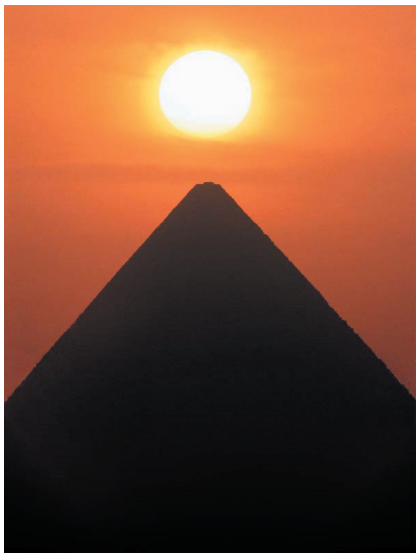
Does such an eating plan exist? Probably not. Your nutritional needs differ at different stages of life, and they may change if you have a chronic disease. Everyone has unique genetic tendencies toward certain diseases, so food components such as salt or fats pose different risks for different people. Food intolerances and allergies also affect what kind of food you eat. In addition, such factors as your culture, family background, religious and moral beliefs, and the cost and the availability of food can all affect your food choices. People like different foods and prepare similar foods in different ways.

These food pyramids have much in common, and you can use any of them as a basis for healthy eating. They follow the same premise of variety, portion control and moderation in eating. Most follow these basic principles:

- Eat more fruits, vegetables and whole grains.
- Reduce saturated fat and cholesterol.
- Limit sugar and salt.
- Drink alcoholic beverages in moderation, if at all.
- Eat moderate-sized portions.
- Include physical activity in your daily routine.

This information was taken from:
http://www.mayoclinic.com/invoke.cfm?objectid=357FAABB-312F-414A-A8D6401C15EE66B4&locID=

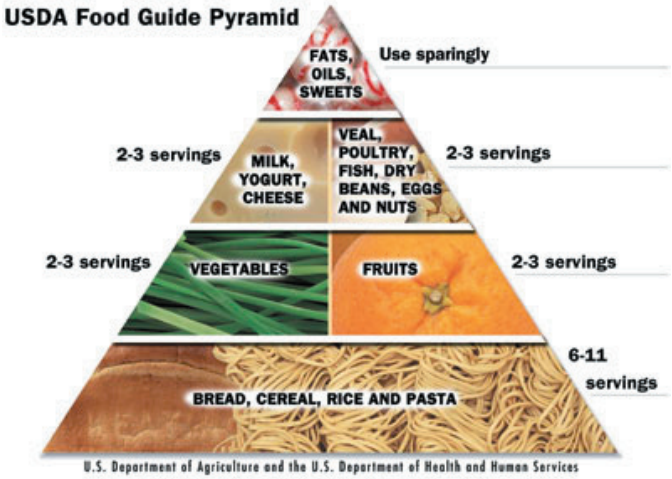
The Pyramid Plan



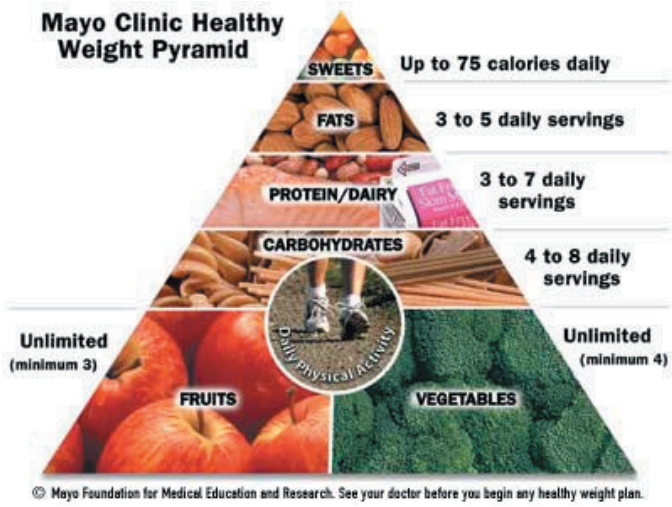
Although there really isn't one perfect diet for everyone, some general principles for choosing foods apply to most people. These principles are often represented in a food pyramid.

The triangular shape of the pyramid shows you where to focus when selecting foods. Foods that you should eat the most of create the large base of the pyramid, and those foods you should eat sparingly form the smaller tip.

Probably the most familiar food pyramid is the Food Guide Pyramid, established by the Department of Agriculture and the Department of Health and Human Services. But many others now exist, including the Asian, Latin American and Mediterranean Diet Pyramids, the Mayo Clinic Healthy Weight Pyramid, and the Vegetarian Diet Pyramid, just to name a few.

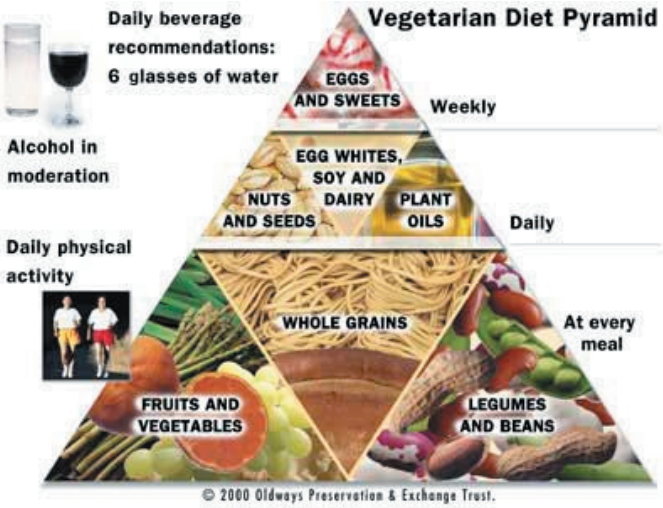


The USDA Food Guide Pyramid emphasizes whole grains, fruits and vegetables. In addition, it includes recommended servings in each food group based on age, sex and level of physical activity. For example, older adults may need just six servings of bread, cereal, rice and pasta while a teenage boy may need 11 servings. Serving sizes are specifically defined in this diet.

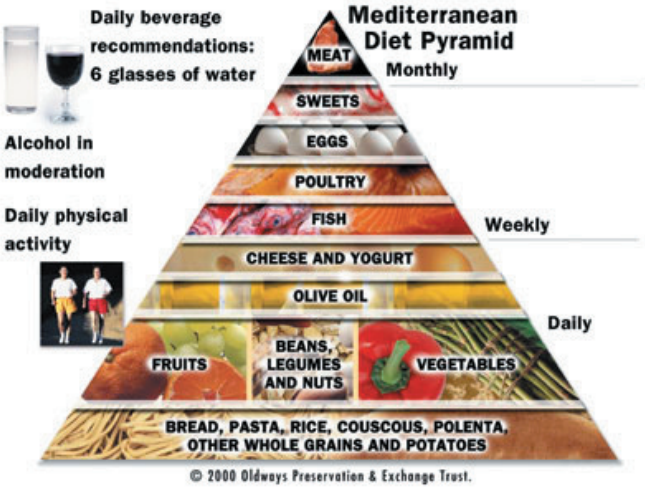


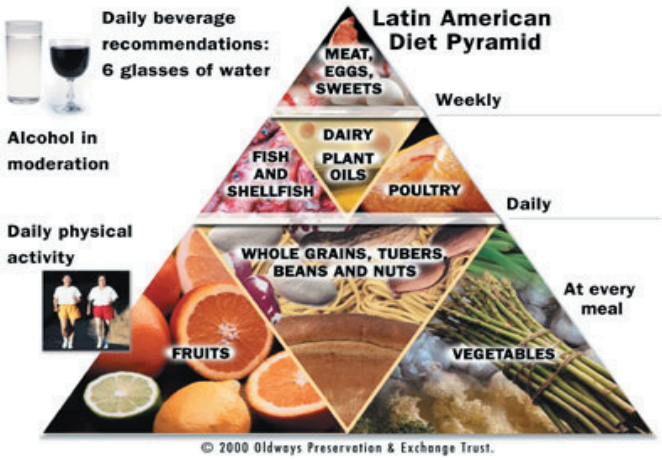
The Mayo Clinic Healthy Weight Pyramid is a tool to help you lose weight or maintain your weight. It focuses on nutritious foods that contain a small number of calories in a large amount of food — such as fruits, vegetables, legumes, poultry, fish or whole grains. Fruits and vegetables, allowed in unlimited amounts, form the foundation of the pyramid. This pyramid also recommends healthy food choices within each food group. Candy and other processed sweets are acceptable, but in moderation — up to 75 calories daily.

Many vegetarian eating plans exist. At the very least, they exclude red meat, chicken and fish. Some vegetarians don't eat eggs or milk products. The strictest vegetarians (vegans) eat only grains, legumes, fruits, vegetables, nuts and seeds, and products made from these foods. This Vegetarian Diet Pyramid includes moderate amounts of nuts and seeds, egg whites, soy milk and dairy products, as well as plant oils.



The Mediterranean Diet Pyramid, based on a cultural eating pattern of Greece, Crete and southern Italy, emphasizes fresh fruits and vegetables, grains, and all types of legumes such as beans, lentils and peas. Olive oil, a monounsaturated fat, enhances many Mediterranean dishes and can be used in place of other fats and oils.





The Latin American Diet Pyramid represents traditional healthy eating patterns in Latin America regions, including Mexico, Central America and South America. The diet emphasizes food from plant sources, especially maize (corn) and potatoes, as well as fruits, vegetables, grains, beans, nuts and seeds. Fish, shellfish, plant oils (corn, soybean and olive oils), dairy products and poultry are daily meal options, and red meat, sweets and eggs are weekly food options.

The Asian Diet Pyramid emphasizes grains, including rice, noodles, breads, millets and corn, as well as fruits, vegetables, legumes, nuts and seeds. Fat in the Asian diet comes largely from vegetable oils high in monounsaturated fat, such as peanut oil. This diet also contains limited dairy products, considering them optional.

Art in the Presentation of Food

Pictures of artistic foods. Below is a variety of foods yet all are artistically presented.

BULGUR PILAF WITH DATES, DRIED APRICOTS, AND TOASTED WALNUTS

CULINARY ARTS

CRANBERRY EGGNOG TART

BEET AND GOAT CHEESE
SALAD WITH PISTACHIOS

SPICED ROAST GOOSE WITH
DRIED-FRUIT PAN SAUCE

PARCHMENT-ROASTED
VEGETABLES

NECTARINE AND BLACKBERRY
COBBLER

CULINARY ARTS

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Site Analysis

History of Bismarck

Bismarck was named after the Northern Pacific Railroad German, Otto Von Bismarck. The city was started when the Northern Pacific railroad stretched out across the east bank of the Missouri River in 1873. There was a great amount of German capital used to invest in the railroad construction which provided opportunities for Bismarck to grow. Today, Bismarck is still a economic hub for the state of North Dakota.

DEMOGRAPHICS

The economic base of Bismarck is distributed as follows: 40% of the employed population makes less than $25,000, 65.2% of the employed population makes less than $35,000, and 49.6% of the area's households have an annual income of below $35,000. While this seems low the living cost in Bismarck is considerably lower than other states. Students from anywhere will be able to attend the college so this school is not entirely based on the income of the Bismarck-Mandan area. The median income for a household in the city is $39,422, and the median income for a family is $51,477.

CULINARY ARTS

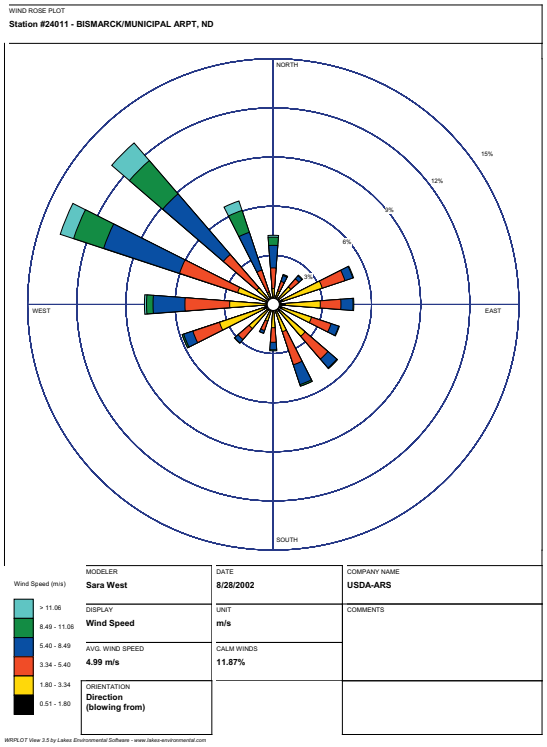
LOCATION

Location is everything and this specific site has a great location. The site's address is 1215 W Main Ave. in Bismarck. This site is only blocks from downtown and has a great connection to Mandan located next to the bridge crossing the Missouri river. The other surroundings are a neighborhood and very underdeveloped commercial area. The southwest side of the site is flanked by Memorial Highway and the Southeast side of the site is flanked by Holiday drive.
The size of this site is fairly large considering it is in an already developed part of Bismarck. The approximate area covers 7.2 acres, or 313,632 square feet.

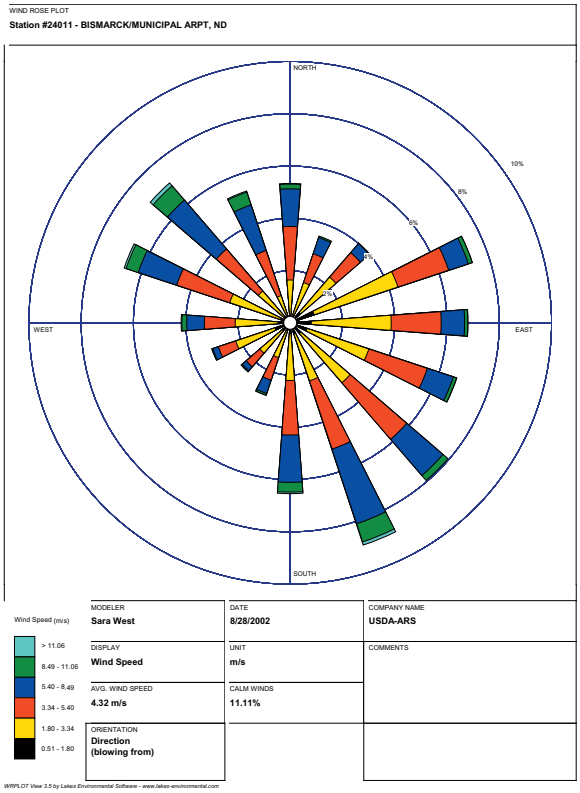
1215 W Main Ave
Bismarck North Dakota

CLIMATE DATA

January is the coldest month with averages of 20.6 degrees and an average precipitation of .45 inches. July is by far the hottest with average temperature at 84.7 degrees and precipitation of 2.14 inches. One of the things this landlocked state is known for is its extreme temperatures know to change temperatures in the double digits at a moments notice. This macroclimate is very drastic and will be a very large contributing factor in the design of this school.



CULINARY ARTS



Wind Directional Frequency
Winds from the… Frequency (%)

NNW	7.3
NW	12.8
WNW	12.9
W	7.0
WSW	3.5
SW	2.9
SSW	3.5
S	4.0
SSE	7.7
SE	8.0
ESE	7.0
E	6.6
ENE	7.0
NE	4.0
NNE	3.2
N	4.2

CLIMATE DATA

Bismarck Temperature	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Temperature	9.2	15.7	28.2	43.0	55.0	64.4	70.4	68.3	57.0	45.7	28.6	14.0	41.6
Avg. Max Temperature	20.2	26.4	38.5	54.9	67.8	77.1	84.4	82.7	70.8	58.7	39.3	24.5	53.8
Avg. Min Temperature	-1.7	5.1	17.8	31.0	42.2	51.6	56.4	53.9	43.1	32.5	17.8	3.3	29.4
Days with Max Temp of 90 F or Higher	0.0	0.0	0.0	< 0.5	1.0	3.0	8.0	8.0	2.0	< 0.5	0.0	0.0	21.0
Days with Min Temp Below Freezing	31.0	28.0	29.0	18.0	4.0	< 0.5	0.0	0.0	3.0	15.0	28.0	31.0	186

Bismarck Heating and Cooling	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Heating Degree Days	1730	1380	1141	660	324	116	15.0	69.0	262	598	1092	1581	8968
Cooling Degree Days	0.0	0.0	0.0	0.0	14.0	98.0	183	171	22.0	0.0	0.0	0.0	488

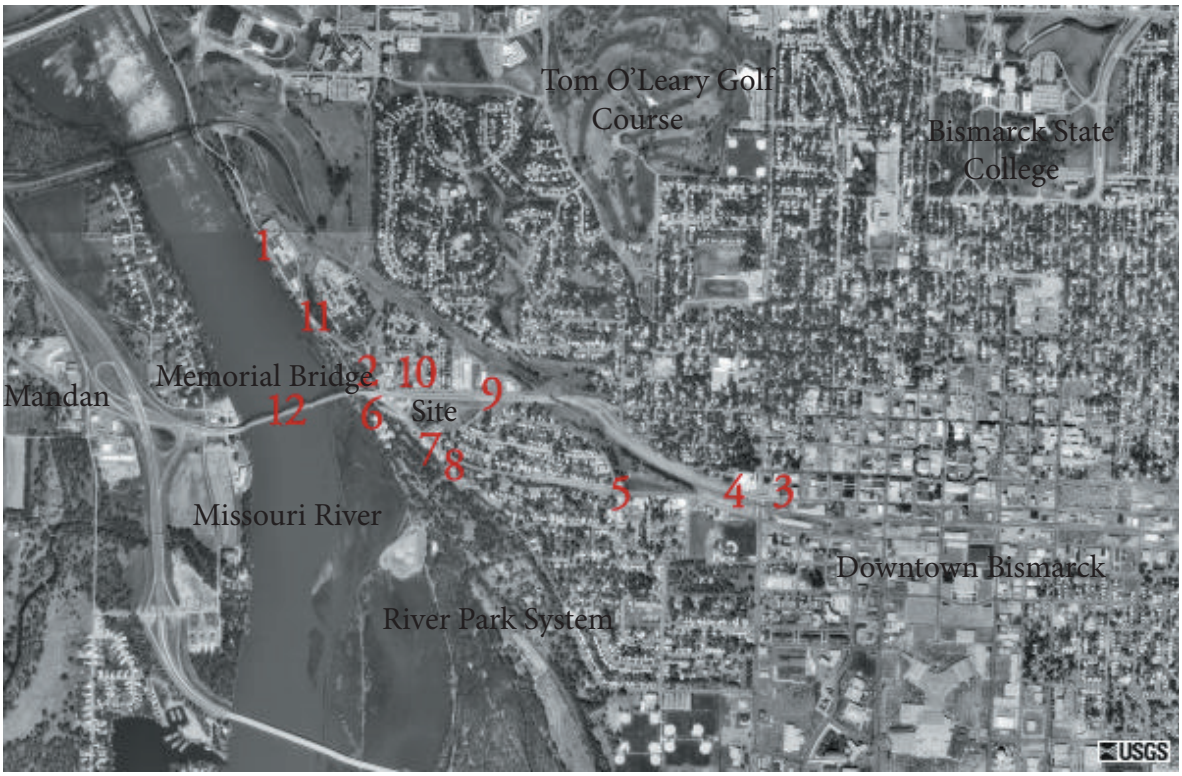
Bismarck Precipitation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Precipitation (inches)	0.5	0.4	0.8	1.7	2.2	2.7	2.1	1.7	1.5	0.9	0.5	0.5	15.5
Days with Precipitation 0.01 inch or More	8.0	7.0	8.0	8.0	10.0	11.0	9.0	8.0	7.0	6.0	7.0	8.0	96.0
Monthly Snowfall (inches)	7.6	7.0	8.6	4.0	0.9	< 0.05	< 0.05	< 0.05	0.2	1.8	7.0	7.0	44.1

Other Bismarck Weather Indicators	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Wind Speed	10.0	9.9	10.9	11.9	11.6	10.4	9.2	9.4	9.9	10.0	10.0	9.5	10.2
Clear Days	7.0	6.0	6.0	6.0	6.0	7.0	11.0	12.0	10.0	9.0	6.0	7.0	93.0
Partly Cloudy Days	8.0	8.0	8.0	9.0	10.0	10.0	13.0	11.0	9.0	8.0	7.0	7.0	107
Cloudy Days	17.0	15.0	17.0	15.0	14.0	12.0	7.0	8.0	11.0	14.0	17.0	17.0	165
Percent of Possible Sunshine	53.0	53.0	58.0	58.0	61.0	64.0	73.0	72.0	65.0	58.0	43.0	47.0	59.0
Avg. Relative Humidity	57.0	74.0	75.0	72.0	65.5	67.0	69.5	66.5	65.5	65.5	67.0	72.5	76.0

CULINARY ARTS

SURROUNDING SITE FEATURES

Since the site is next to the river there is a steep bank on the west side. However there is a road that is located between the site and the bank so most of the property is on flat ground. There is a slight slope but not enough to be of concern. The current building has been around for quite some time and shows the stability of the topography.



CULINARY ARTS

1

This walking path is along the Missouri river and a great place for culinary school students to exercised and get outside.

2

This picture is taken in the Main Avenue instersection west of the site.
Looking East

CULINARY ARTS

3

This photo was taken looking downtown Bismarck on Main Avenue.

4

This photo was taken looking toward the site on Main Avenue.

5

Zonta park is located close to the site and will be a great place to pack a picnic on a sunny day.

6

This picture is looking west of my site and across the road at retailing businesses.

7

This picture is taken from the south west corner of the site looking north. This corner of the site had the restaurant associated with the hotel. There are nice trees on this corner of the site. The bulivard trees look great on this street.

8

This picture is looking south at the residential houses and apartments around the site.

9

This picture is looking towards the Main Avenue bridge and the main street access to the site. Across the street are care dealerships. The walking path along the front of the site leads to the walking paths along the Missouri river.

10

This picture adresses the main intersection on the north west corner of the site.

CULINARY ARTS

11

On the north side of the site driving up from the river towards the intersection on main.

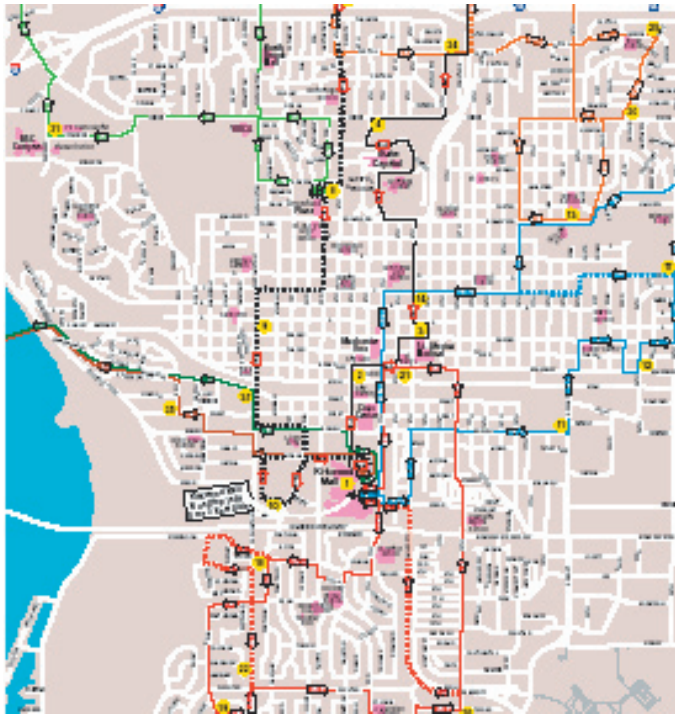
12

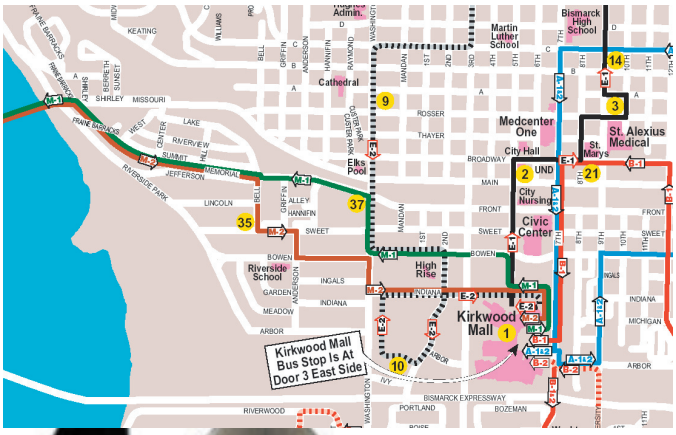
Driving across the Memorial Bridge towards the Mandan.

TRANSPORTATION

When getting around Bismarck on public transportation a person can use the CAT, capitol area transit. There are two major bus routs that go directly by the site that will bring students to the mall and downtown. Once at the mall you can transfer to other bus routes that take you all over the Bismarck area.

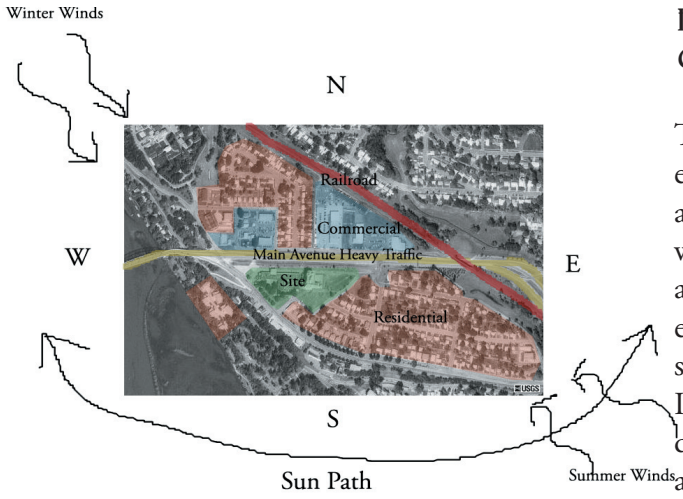
Because there isn't a lot of room on the site for parking public transportation will be a key in getting students to the culinary school.





CULINARY ARTS

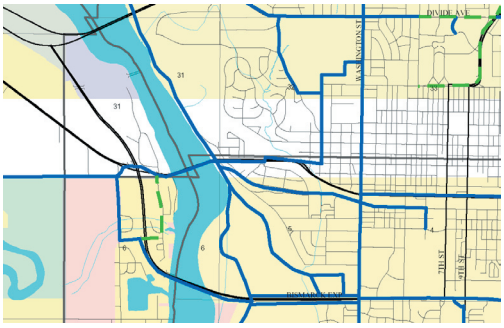
CULINARY ARTS

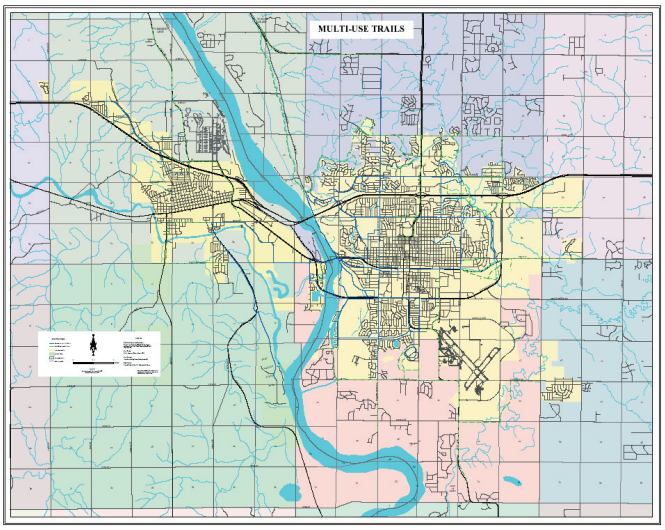


ENVIRONMENTAL CONSIDERATIONS

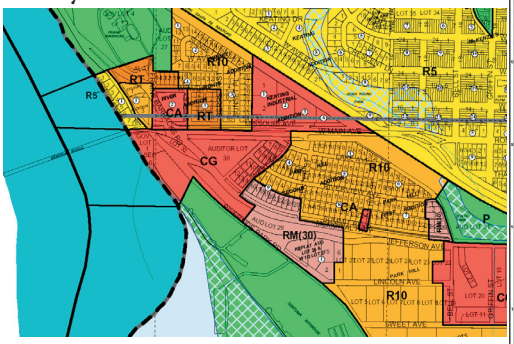
There are several environmental considerations for the area. One environmental affect on the site is prevailing winds which come from the north, north west at about 10.5 miles per hour. A second environmental effect on the site is the sun path that arch's over the south. In Mid July at noon the sun is at 70 degrees in the sky. In mid December at noon the sun is at 20 degrees in the sky. Combining the height of the sun in the sky with the number of clear days and cloudy day's shows when the sun is higher in the sky is also when there are less cloudy days. When the sun is lower in the sky the cloudy days are much more common. Looking specifically at these environmental issues in the state of North Dakota will have a large affect on the building design.

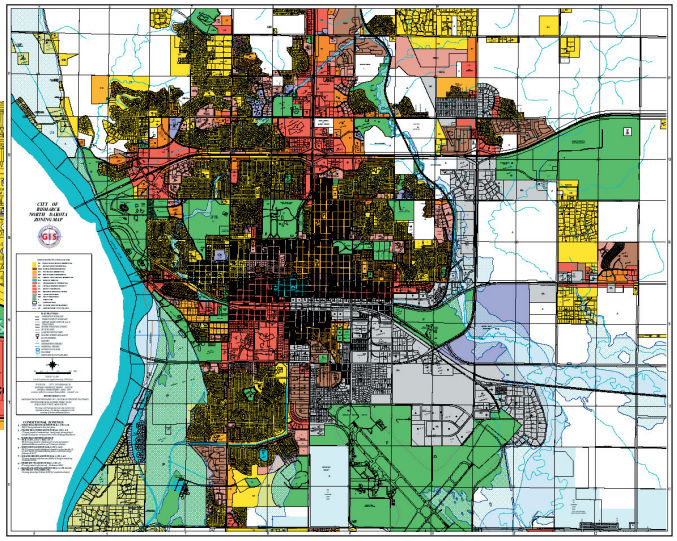
Trail Map
There are a lot of parks and trails in Bismarck and specifically close to the site.





Bismarck Zoning Map
The site is currently zoned for Heavy Commercial





CULINARY ARTS

Culinary School for Healthy Eating

Adjacency:

It would be best if this skills kitchen was close to the Chefs offices so that if help is needed students can easily get a hold of them.

The Skills kitchen should also be close to all the other kitchens as well.

Relationships:
Associated with the main instruction kitchens.

Users:

Students:
20 students can use this room at a time. Students will be the main users of this space.

Professors:
will visit from timeto time to aid in this home room learning experience.

Space Planning:

1,800 Square Feet

Skills Kitchen:

•This space is designed for individual work stations. Here students will learn how to demonstrate skills and techniques. A sort of study hall for culinary students.

•Professors will come in and aid in study periods if need be.

•The main ambience of this space is an exploration of personal skills that will be studied and advanced in class.

Equipment requirements:
Countertops
Storage
Sinks
small refrigeration unit

Material-Finishes:
Ceiling:
Can be either structural which supports the floors above or a false ceiling needs to be easily cleaned. Codes usually specify what ceiling needs to be used in a kitchen.
Wall:
needs to be strong and easy to clean
•structural glazed tile
•ceramic tile
•concrete block with epoxy paint
Floor:
•easy to maintain
•wear-resistant
•slip resistant
•nonporous
example: quarry tile

ECS:

Lighting:
•Daylighting required to aid in cleanliness and disease prevention.
•efficiency is better with more light

Ventilation:
This kitchen does not use large ovens so the ventilation system can be standard.

Acoustics:
Controlling noise is important in kitchens because they are generally loud due to the reflective materials.

Adjacency:

This kitchen needs to be close to the chefs offices.

This kitchen should also be close to the other kitchens in the culinary institute.

Relationships:
Associated with the main instruction kitchens.

Users:

Students:
Advanced students will be using this space for their educational classes.

Chefs:
There will always be a professor on hand for instruction during class.

Space Planning:

1,800 Square Feet

Advanced Kitchen:

• This kitchen is used for the instruction of students in more advanced cooking methods.

• Side by side work stations in an active kitchen environment where students complete tasks.

Equipment requirements:
Storage Shelves
Refrigerators
Freezers
standard ovens with stove top
Convection Oven
mixers

Material-Finishes:

Ceiling:
Can be either structural which supports the floors above or a false ceiling needs to be easily cleaned. Codes usually specify what ceiling needs to be used in a kitchen.

Wall:
needs to be strong and easy to clean
•structural glazed tile
•ceramic tile
•concrete block with epoxy paint

Floor:
•easy to maintain
•wear-resitant
•slip resistant
•nonporous
example: quarry tile

ECS:

Lighting:
•Daylighting required to aid in cleanliness and disease prevention.
•efficiency is better with more light

Ventilation:
The main ventilation will be through the hoods over the ranges. This is where the main heat is.

Acoustics:
Controlling noise is important in kitchens because they are generally loud due to the reflective materials.

Adjacency:

The introduction kitchen needs to be next to all the other instruction kitchens.

The intro kitchen should be close to the advanced kitchen so that students can help teach other students and they can learn from each other.

Relationships:
Associated with the Main instruction Kitchens.

Users:

Students:
about 40 students per class will use this facility.

Professors:
There will always be a professor on hand for instruction during class.

Space Planning:

1,800 Square Feet

Introduction Kitchen:

• Basic classic culinary techniques, product and equipment identification, and skill development are taught in this kitchen.

•Basic cutting techniques and sauces are mainly taught in this space.

Equipment requirements:
Dish Washing Facility
Moveable cutting tables
sinks
Refrigerator
freezer
Ranges

Material-Finishes:

Ceiling:
Can be either structural which supports the floors above or a false ceiling needs to be easily cleaned. Codes usually specify what ceiling needs to be used in a kitchen.

Wall:
needs to be strong and easy to clean
•structural glazed tile
•ceramic tile
•concrete block with epoxy paint

Floor:
•easy to maintain
•wear-resitant
•slip resistant
•nonporous
example: quarry tile

ECS:

Lighting:
•Daylighting required to aid in cleanliness and disease prevention.
•efficiency is better with more light

Ventilation:
The main ventilation is over the range where a lot of heat is produced.

Acoustics:
Controlling noise is important in kitchens because they are generally loud due to the reflective materials.

Adjacency:

This is a public space and needs to be near the main circulation.

This space should also be next to the main reception desk and administration offices. Generally speaking it should be at the center of the building.

Relationships:
Associated with the instruction kitchens and the administration side of the culinary school.

Users:

Students:
The general student body will take lecture demonstration classes in this space.

Chefs:
They will primarily be the ones up front using the demonstration kitchen

Community:
The community will come in periodically to either take short courses or a series of classes.

Space Planning:
2@
2,000 Square Feet

Demonstration Kitchen:

- This is an auditorium setting where people can gather and watch cooking demonstrations at the front of the classroom.

- This space is also used by the public for educating them on new healthy recipes they can make at home.

- The ambience of this space is architectural and on of the main design spaces in the building. This is also and environment for exploration of new technology.

Equipment requirements:
demonstration kitchen
audience seating
TV monitors

Material-Finishes:
Ceiling:
Accoustical material need.

Wall:
Accoustical material needed

Floor:
Carpets or some sort of sound absorbing material is needed.

ECS:
Lighting:
•The front demonstration kitchen will need specific lights that will highlight the work space.
•The audinec needs general lights that dim when need be.
Ventilation:
The ventilation for this space will be a hood over the range and then general auditorium ventilation.
Acoustics:
The accoustics in this space are like a regular auditorium. Projecting the speaking and limiting audienc noise.

Adjacency:

This kitchen should be close to the chefs offics.

The Cold kitchen should also be close to the other kitchens.

Relationships:
Associated with the Main instruction Kitchens.

Space Planning:

1,400 Square Feet

Users:

Students
about 40 students per class will use this facility.

Chefs:
There will always be a professor on hand for instruction during class.

Garde manger Kitchen: (Cold Kitchen)

• Where cold foods are prepared such as sal ad, pates, chaud-froids and other decorative dishes.

•Many Salads are prepared in this kitchen as well as decorative ice sculptures.

•This space is all about presentation and decoration.

Equipment requirements:
refrigerator
moveable tables
Sinks
storage

Material-Finishes:
Ceiling:
Can be either structural which supports the floors above or a false ceiling needs to be easily cleaned. Codes usually specify what ceiling needs to be used in a kitchen.
Wall:
needs to be strong and easy to clean
•structural glazed tile
•ceramic tile
•concrete block with epoxy paint
Floor:
•easy to maintain
•wear-resitant
•slip resistant
•nonporous
example: quarry tile

ECS:

Lighting:
•Daylighting required to aid in cleanliness and disease prevention.
•efficiency is better with more light

Ventilation:
The main ventilation is over the range where a lot of heat is produced.

Acoustics:
Controlling noise is important in kitchens because they are generally loud due to the reflective materials.

Adjacency:

This kitchen needs to be close to the chefs offices.

This kitchen should also be close to the other kitchens in the culinary institute. Because of the large amount of meat product coming in to this kitchen it needs to be next to the recieving-rooms.

Relationships:
Associated with the Main instruction Kitchens.

Users:

Students:
20 students can use this room at a time. Students will be the main users of this space.

Chefs:
There will always be a professor on hand for instruction during class.

Space Planning:

1,800 Square Feet

Butchery Kitchen:

• This kitchen is used for the development in the recognition and fabrication of meats, poultry, and fish.

• Sanitation and Hazard Analysis Critical Control Point is also taught in this space.

• Specifically curing, portioning, smoking of meats is taught.

Equipment requirements:
Walk in freezer
Walk in refrigerator
Sinks
Moveable tables

Material-Finishes:
Ceiling:
Can be either structural which supports the floors above or a false ceiling needs to be easily cleaned. Codes usually specify what ceiling needs to be used in a kitchen.
Wall:
needs to be strong and easy to clean
•structural glazed tile
•ceramic tile
•concrete block with epoxy paint
Floor:
•easy to maintain
•wear-resitant
•slip resistant
•nonporous
example: quarry tile

ECS:

Lighting:
•Daylighting required to aid in cleanliness and disease prevention.
•efficiency is better with more light

Ventilation:
The main ventilation will be through the hoods over the ranges. This is where the main heat is.

Acoustics:
Controlling noise is important in kitchens because they are generally loud due to the reflective materials.

Adjacency:

The baking and pastry kitchen needs to be next to all the other instruction kitchens.

Relationships:
Associated with the Main instruction Kitchens.

Space Planning:

1,800 Square Feet

Users:

Students
about 40 students per class will use this facility.

Chefs:
There will always be a professor on hand for instruction during class.

Pastry Studio/ Bakery:

• A specific kitchen for the preparation and cooking of baked goods and pastries.

• There is a special art in baking and pastry and therefore demands it's own degree at the culinary school.

• Basic mixing methods and desert preparations are taught in this space.

Equipment requirements:
Storage Shelves
Refrigerators
Freezers
Slow cook ovens
Convection Oven
mixers

Material-Finishes:

Ceiling:
Can be either structural which supports the floors above or a false ceiling needs to be easily cleaned. Codes usually specify what ceiling needs to be used in a kitchen.

Wall:
needs to be strong and easy to clean
•structural glazed tile
•ceramic tile
•concrete block with epoxy paint

Floor:
•easy to maintain
•wear-resitant
•slip resistant
•nonporous
example: quarry tile

ECS:

Lighting:
•Daylighting required to aid in cleanliness and disease prevention.
•efficiency is better with more light

Ventilation:
The main ventilation is over the ovens used in baking.

Acoustics:
Controlling noise is important in kitchens because they are generally loud due to the reflective materials.

Adjacency:

The International Kitchen needs to be next to all the other instruction kitchens.

Perhaps this kitchen needs to be close to the library for research purposes.

Relationships:
Associated with the Main instruction Kitchens.

Users:

Students:
20 students can use this room at a time. Students will be the main users of this space.

Chefs:
There will always be a professor on hand for instruction during class.

Space Planning:

1,800 Square Feet

International Kitchen:

• This kitchen is used for learning about international foods.

• A cross section of various International and American cuisines along with an appreciation of native culture and products is taught in this kitchen.

Equipment requirements:
Storage Shelves
Refrigerators
Freezers
standard ovens with stove top
Convection Oven
mixers

Material-Finishes:
Ceiling:
Can be either structural which supports the floors above or a false ceiling needs to be easily cleaned. Codes usually specify what ceiling needs to be used in a kitchen.
Wall:
needs to be strong and easy to clean
•structural glazed tile
•ceramic tile
•concrete block with epoxy paint
Floor:
•easy to maintain
•wear-resitant
•slip resistant
•nonporous
example: quarry tile

ECS:

Lighting:
•Daylighting required to aid in cleanliness and disease prevention.
•efficiency is better with more light

Ventilation:
The main ventilation will be through the hoods over the ranges. This is where the main heat is.

Acoustics:
Controlling noise is important in kitchens because they are generally loud due to the reflective materials.

Adjacency:

The library should be in a central location in the buidling.

Both faculty and students need easy acces.

Relationships:
The library is a mediating space between the general classrooms and the skills kitchens.

Users:

Students

Professors

Chefs

Space Planning:

1,500 square feet

Library:

• The library will be used by the students to explore new possibilities in the culinary arts profession.

•There will be a computer lab as well to aid with the advancement of technology in the culinary arts.

Equipment requirements:
Computers
Library stacks
desks for study space

Material-Finishes:

Ceiling:
The ceilings should be fairly high and airy. Light reflective will work best to keep lighting levels high.

Wall:
Many materials will work for the library application. General gypsum stud walls will work just fine.

Floor:
Carpart or another form of accoustical floor covering is needed in the library space.

ECS:

Lighting:
individual task lighting is needed for study spaces general lighting is needed for the computer lab and library stacks.
There needs to be natural light as well.
Ventilation:
general ventilatoin needed in the library.
More ventilation is needed for the computer lab and the high output of heat the computer give off.
Acoustics:
some accoustical control is needed

Adjacency:

The general classrooms should be located close to the general education professors offices.

Relationships:
General classrooms are associated with the administration wing.

Space Planning:
4@
700 Square Feet

Equipment requirements:
Computer projection screen
desks and chairs
lectern

ECS:

Lighting:
general classroom lighting is required. Natural light is also needed in these classrooms.
Ventilation:
general ventilationis needed in the classroom as well as natural ventilatoin.
Acoustics:
general accoustical requirements needed.

Users:

Students

Chefs

professors

General Classroom:

- There are general education requirements along with the specified culinary arts degree.

•These gen ed classes will be taught in these designated classrooms.

Material-Finishes:
Ceiling:
acoustic tile

Wall:
basic partition wall

Floor:
carpet or tiles

Adjacency:

The Gallery should be close to the demonstration kitchen, Reception, and administration.

The gallery can double as circulation for the school as well.

Relationships:
Associated with the entire schools functions.

Users:

Students
every student can come and see what others have been working on and learning.

Community
Professors
Chefs
Administration

Space Planning:

400 Square Feet

Gallery:

- The gallery is used to show of what the students have either been doing in their classes or on personal time.

- Pictures or the actual food can be displayed in cases for people to walk around and see.

Equipment requirements:
Glass display boxes for presentation of foods

Material-Finishes:
Ceiling:
decorative and conducive to displays

Wall:
White or plain walls to show off displays.

Floor:
architectural floor that also supports the displays.

ECS:

Lighting:
Task lighting to see the displays in the gallery as well as lot of natural lighting that doens't distract from the displays.

Ventilation:
standard ventilation required

Acoustics:

Adjacency:

The reception space needs to be close to the buidling entry as well as the administration offices.

The reception desk is also associated with directing people towards the onsite dinning facility.

Relationships:
Associated with the entire school.

Users:

New students
Professors
Community
Dining Guests

Space Planning:

300 Square Feet

Reception:

- The reception space sets up the tone for the culinary school.
- Guests who come for the restaurant or lecture series and will get direction from this person.

Equipment requirements:
reception desk and chair
extra seating for waiting guests, couches

Material-Finishes:

Ceiling:
architectural and impressionistic

Wall:
architectural and impressionistic

Floor:
architectural and impressionistic

ECS:

Lighting:
a lot of natrual light and some task lighting for the front desk and general lighting needed during the evening.

Ventilation:
Extra hvac during the winter to keep the receptionist warm.

Acoustics:

Adjacency:

The book store needs to be close to the reception desk and the demonstration kitchen.

The bookstore will also be open during restaurant hours so that dining guests while waiting for theri reservation can go and look around.

Relationships:
Associated with the entire school.

Users:

Chefs

Students

Community

Space Planning:

800 Square Feet

Bookstore:

- Students will be able to purchase necessary cooking supplies that aren't supplied by the school . Generally a knife set is required in the first intro class.

- The community may also want to purchase high quality cooking products and cook books at this bookstore.

Equipment requirements:
Cash Register
Display Shelves
Storage Space

Material-Finishes:

Ceiling:
Condusive ceiling to selling products.

Wall:
conducive to selling products.

Floor:
Durable material

ECS:

Lighting:
task lighting is need for merchandise displayes. General lighting is needed. Also some natrual light would be nice in this space.

Ventilation:
General ventilation required. Associated with Administration wing.

Acoustics:

Adjacency:

The admissions office should be close to the reception desk and the administration wing.

Most of the offices for the school needed to be located next to each other to communicate.

Relationships:
Associated with the Administration spaces.

Users:

Students

Prospective Students

Administration Staff

Space Planning:
12@
50 square feet

Admission Office:

• These offices are used for the faculty that deal with the fast turn over rate of students in the culinary program.

• Every 8 months there is a new group of students that come into the culinary school. This high flow of students creates a lot of work for the admissions offices.

Equipment requirements:
Desks
Shelving
Paper storage (file cabinets)

Material-Finishes:
Ceiling:
tightly attached ceiling or suspended ceiling

Wall:
basic partition walls

Floor:
material that wears well with office use

ECS:

Lighting:
Natural light taks light and general lighting is needed for the administration offices.

Ventilation:
Natrual ventilation and general mechanical ventilation is needed.

Acoustics:
Admissions offices need to be quiet for telephone conversations.

Adjacency:

The gen ed offices need to be next to the general education classrooms.

These offices should also be located with all the other support offices in the building.

Relationships:
Associated with the administration spaces.

Users:

Professors

Space Planning:
12@
50 Square Feet

General Education Offices:

- There are required general education professors on this campus and these offices will support those educators.
- These are typical offices used by the professors that teach in the building.

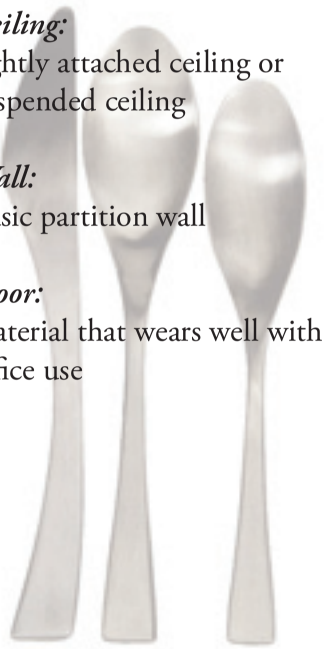
Equipment requirements:
Desks
Shelving
Paper storage (file cabinets)

Material-Finishes:

Ceiling:
tightly attached ceiling or suspended ceiling

Wall:
Basic partition wall

Floor:
material that wears well with office use



ECS:

Lighting:
Natural light ,taks light and general lighting is needed for the education offices.

Ventilation:
Natrual ventilation and general mechanical ventilation is needed.

Acoustics:
Walls need to be sound proof from other offices in area.

Adjacency:
The chefs offices need to be close to all of the skills kitchens that will allow for easy acces to the kithcens by the professors. This location will also allow for the students to locate a chef if needed.

Relationships:
Associated with the administration spaces.

Space Planning:
35@
50 Square Feet

Users:

Chefs

Chefs Offices:

- There are 35 chefs that teach and their offices are a place to prepare their lecture materials.
- These are typical offices.

Equipment requirements:
Desks
Shelving
Paper storage (file cabinets)

Material-Finishes:
Ceiling:
tightly attached ceiling or suspended ceiling

Wall:
basic partition wall

Floor:
material that wears well with office use

ECS:

Lighting:
Natural light ,taks light and general lighting is needed for the chefs offices.

Ventilation:
Natrual ventilation and general mechanical ventilation is needed.

Acoustics:
Walls need to be sound proof from other offices in area.

Adjacency:

The full commercial kitchen is next to the dining area and other restaurant spaces.

Relationships:
Associated with in house restaurant.

Users:

Community

Chefs

Students

Space Planning:

1,300 Square Feet

Full Commercial Kitchen:

• Used for the onsite restaurant and used by the students to serve the Bismarck community quality healthy foods.

•Everything needed in an offsite kitchen will be included to teach the complete restaurant experience.

Equipment requirements:
Storage Shelves
Refrigerators
Freezers
standard ovens with stove top
Convection Oven
mixers

Material-Finishes:

Ceiling:
Can be either structural which supports the floors above or a false ceiling needs to be easily cleaned. Codes usually specify what ceiling needs to be used in a kitchen.

Wall:
needs to be strong and easy to clean
•structural glazed tile
•ceramic tile
•concrete block with epoxy paint

Floor:
•easy to maintain
•wear-resitant
•slip resistant
•nonporous
example: quarry tile

ECS:

Lighting:
•Daylighting required to aid in cleanliness and disease prevention.
•efficiency is better with more light

Ventilation:
This kitchen does not use large ovens so the ventilation system can be standard.

Acoustics:
Controlling noise is important in kitchens because they are generally loud due to the reflective materials.

Adjacency:

The dinning room is located next to the full commercial kitchen and outdoor patio.

Relationships:
Associated with the in house restaurant.

Space Planning:

1,400 Square Feet

Equipment requirements:
dining tables
chairs
host station

ECS:

Lighting:
depending on the mood of the restaurant this can change greatly.

Ventilation:
General ventilation is neded.

Acoustics:
Sounds needed to be blocked from the noisy kitchen.

Users:

Students

community

Dining Room:

• This dining room is where the students get to serve their food and learn the actual restaurant environment.

• This is like a typical off site restaurant completely self sufficient.

Material-Finishes:

Ceiling:
Decorative ceilings or whatever compliments the archtiectureal design.

Wall:
Decorative walls or whatever compliments the architectural design.

Floors:
quarry tile, unglazed ceramic tile, carpet, terrazzo

Adjacency:

This hall needs to be close to the fully functional restaurant kitchen so that the food for banquets and other parties is easily served.

This space should also be close to the other public spaces such as demonstration kitchen and gallery.

Relationships:
Associated with the entire culinary school.

Users:

Students
Community
Chefs
Administration

Space Planning:

2,000 square feet

Formal Hall:

- The formal hall is used for graduataion ceremonies and banquets.
- This space can also be used for circulation.
- This will be a great space for all school celebrations and different seasonal parties. The public can also rent or use this space. Weddings may be one of the prime uses of this hall.

Equipment requirements:
Moveable tables and chairs

Material-Finishes:

Ceiling:
High structural ceilings

Wall:
decorative architectural walls

Floor:
carpet or some sort of durable material

ECS:

Lighting:
A lot of natural light should be present in this space. During the evening architectural lighting will be great in this space.

Ventilation:
General Mechanical ventilation is needed

Acoustics:
The formal hall is a tall and lofty space and will need some acoustic materials.

Adjacency:
The herb garden should be located close to the exterior patio.

Relationships:
Associated to the skills kitchens.

Space Planning:

1,000 square feet

Equipment requirements:
gardening requirements

ECS:

Lighting:

Ventilation:

Acoustics:

Users:

Students

Chefs

visual garden to guests

Herb Garden:

•Regional herbs will be grown on site that can be used in the cooking of foods in the culinary school. This herb garden is also an education in herbs and how to use them.

Material-Finishes:
Ceiling:

Wall:

Floor:

Adjacency:

This patio will be next to the in house restaurant. and provide overflow seating when needed.

Relationships:
The patio is public and should be located off the in house restaurant and reception desk.

Space Planning:

100 square feet

Equipment requirements:
Awnings
Patio Furniture
Fencing

ECS:

Lighting:
Mostly lit by natural lighting but will also have a night lighting pattern for dining out in the evenings.

Ventilation:

Acoustics:
Vegetation can be used as a sound block around the patio.

Users:

Students:
May grill on a warm summer day or other outdoor activities.

Professors:

Community:
May dine out on the patio as part of the restaurant.

Terrace for Outdoor Dinning:

- This exterior patio is for experiencing dining outdoors. The terrace will specifically be associated with the in house restaurant.
- Outdoor dining will be linked to a balance with nature and culinary arts through this space.

Material-Finishes:

Ceiling:
Overhead shadding

Wall:

Floor:
A durable exterior finish will be needed for the patio floor.

Adjacency:
The recieving space is very important to the culinary school because they get a lot of food shipped in.

Recieving needs to be close to the walk in refrigerators and freezers located in the butchery kithcen. In general recieving needs to be close to the skills kitchens.

Relationships:
Associated with the skills kitchens.

Users:

Students

Trucks

Space Planning:
1,000 square feet

Receiving:

• A lot of food comes and goes in a culinary institute and this space addresses the need for docking of trucks and the unloading of foods and products.

• Storage is also required for dry goods and the many whines the go a long with the culinary experience.

Equipment requirements:
shelving for storage
fenced in area for secure products

Material-Finishes:

Ceiling:
durable material required

Wall:
durable material required

Floor:
durable material required

ECS:

Lighting:
adequate light is needed to see shipping labels and product.

Ventilation:
Mostly used as a temporary storage and will not need a lot of ventilation.

Acoustics:
Block loud unloading noise to other rooms in the culinary institute.

Adjacency:
The education and administration wing needs to be close to a restroom.

The demonstration kitchens need to be next to the restrooms as well.

Relationships:
Associated with the entire building use.

Users:

Students

20 students can use this room at a time.

Professors will visit from time to time to aid in this homeroom learning experience.

Space Planning:
2@
200 Square Feet
2@
100 square Feet
2@
50 square Feet

Restrooms:

- The restaurant needs separate bathrooms for the dining guests.
- The demonstration kitchens and general education classrooms need a larger bathroom. This bathroom will service the entire school.
- Another bathroom is needed for just the skills kitchen. This bathroom will not be as large and extensive as the other restrooms.

Equipment requirements:
toilets
sinks

Material-Finishes:
Ceiling:
structural ceiling

Wall:
ceramic tile or a material that reflects the architecture

Floor:
Quarry tile, unglazed ceramic tile or terrazzo.

Something that is easily cleaned. Also may be different according to what bathroom it is in.

ECS:

Lighting:
General bathroom lighting

Ventilation:
required bathroom ventilation

Acoustics:

Adjacency:

Mechanical rooms need to be close to the skills kitchens.

Relationships:
Associated with the entire building.

Space Planning:

15,000 Square Feet

Equipment requirements:
HVAC equipment
other mechanical equipment

ECS:

Lighting:
adequate general lighting is needed for servicing of the mechancial equipment. Natural light isn't needed in this space.

Ventilation:

Acoustics:
Sound dampening of the walls so the hvac equipment doesn't create excess noise throuout the buidling is required.

Users:

Janitorial Staff

Mechanical Rooms:

• There is a lot of ventilation required in kitchens and therefore large mechanical rooms will be needed to take care of this issue.

Material-Finishes:
Ceiling:
durable

Wall:
durable

Floor:
durable

CASE STUDY:
CULINARY INSTITUTE OF AMERICA

Hyde Park , New York
Ristorante Caterina de'Medici
Area: 18,000 sq ft
Spaces:
Dining rooms
Production kitchen
classroom
Continuing education kitchen

Materials:
colorful stuccoed walls
terracotta wall tiles
quarry floor tiles
wrought iron candle sconces
antiques wood and furnishings
colored Venetian glass chandeliers
Architect: Roberto Magris

SUMMARY

Durkee herb-garden plaza, planted with heirloom vegetables, herbs and flowers, provides seasonally available fresh ingredients for use in the restaurants kitchens and dining rooms.
$6.7 million
Finished May 2001

The Colavita Center was planned to reflect the essence of Italian culture and tradition in its architecture, interior design and gardens, as well as its kitchens.

There are six different dining areas. They feature 28 foot ceilings large Venetian chandeliers and a wroughtiron railing that carries the balcony overhead.

The over all feeling is warm and rustic.

A 2,000 square foot kitchen pus the sight and sounds of menu preparations on view for diners through the large archways that frame the dining area.

A large open kitchen lends itself to better communication between student and chef as the students learn food production skills.

ANALYSIS:

This case study is applicable because of it architectural precedence in a culinary school. Normally attention is payed to the interior finishes and not the exterior. This particular case study is a good study because it actually treats the exterior in a special way.

The careful choices of material that are representative to Italy should also be taken note of. While the Culinary School for Healthy Eating isn't primarily Italian it is just as important to keep a style and stick with it.

Outdoor view of the Italian food center. Over all a very impressive and compeling building for the culinary architecture field.

CULINARY ARTS

CASE STUDY

BRAIN FOOD COURT

Art museum of science and industry
Chicago

Design Capsule
Brain Food Court features five food concept stations and 525 seats in three dining areas.

Hours of operation: Staff breakfast, 8 a.m.-10 a.m.; regular breakfast for guests, 9:30 a.m.-10 a.m.; lunch, 11 a.m.- 3 p.m.

The number of daily museum visitors ranges from 1,000 to 18,000.

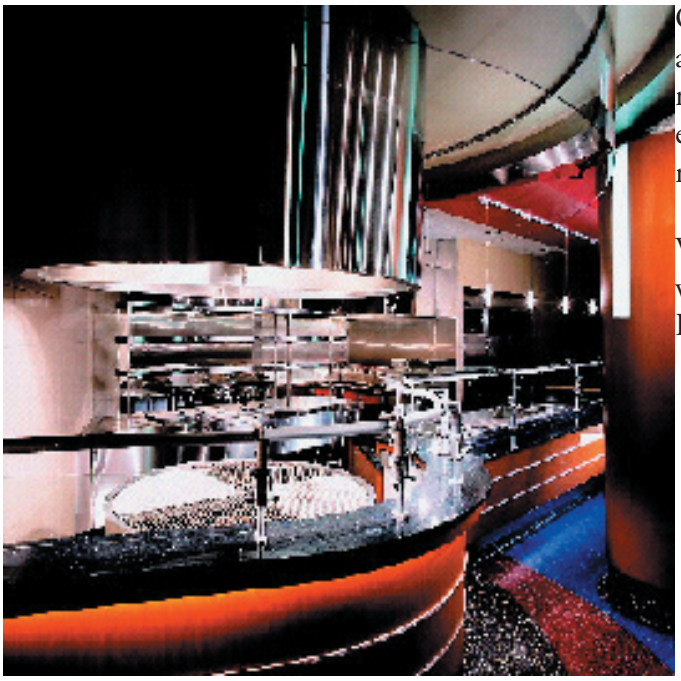
The total project occupies
21,000-square-feet
kitchen at 5,500-square-feet
the servery at 5,300-square-feet
dining areas at 7,700- square-feet
an employee lounge at 1,400-square-feet
Brain Food Café at 845-square-feet.

Architects and Interior Design:
Aumiller Youngquist, Chicago.
Bill Aumiller and Keith Youngquist
Foodservice Consultants:
Robert Pacifico

SUMMARY:
The important thing to take out of this case study is the technology that is used in the kitchen and dining facilities.

"The mission was to provide a flexible and captivating environment that would be inspiring, interactive, educational and nurturing."

For long range flexibility each station was designed with drains and wired to accommodate different types of equipment as needed. In addition, signage is generic, which makes future adjustments easy to make. This is an important aspect that needs to be applied to my design. Culinary arts is changing in the technology and nutritional aspects. Having a kitchen that changes with them will save everyone a lot of money and hassle in the long run.



One of the highlights of the project is a protocal system that connects all the refrigeration pieces to a common refrigerant source. This is much like a supermarket technology.

Visitors are transported into a new world as they experience the new Brain Food Court.

CULINARY ARTS

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CASE STUDY

Le Cordon Bleu Culinary Program at
Brown College
Mendota Heights MN 55102

Current Building is 60,000 square feet.
10 kitchens

While touring Brown I wasn't impressed with a lot of their spaces. This building was retrofited from and office to a culinary school. The exterior doesn't represent at all what is going on in the spaces. Also there isn't a lot of room to grow. The Restaurant facilities weren't set apart from the other
kitchens and the dining sace itself didn't have architectural precidents either. While the facitlity did have adequate equipment it was lacking in character just about everywhere. Brown college was a good case study to understand basic programatic requirements but not a study of actual architectural design.

Butchery Kitchen

Introduction Kitchen

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Advanced Kitchen

Cold Kitchen

Advanced Kitchen

International Kitchen

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Restaurant Functioning Kitchen

Restaurant Dining Facility

New Culinary Institute Building Under construction.

The new school will be able to support 1,000 students.

$8,000,000 construction cost

100,000 square feet
KKE Architects

40% Student Growth rate

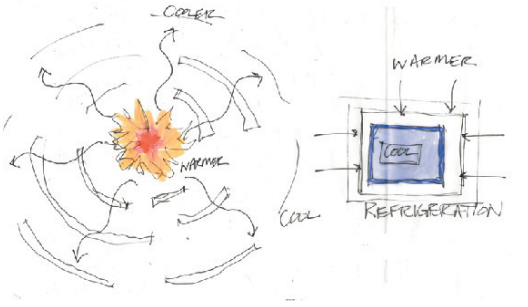
CULINARY ARTS

PROCESS DOCUMENTATION

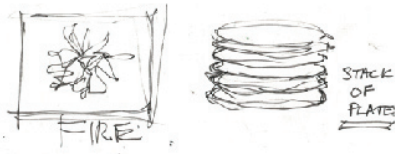
PROCESS SKETCH EXPLANATION

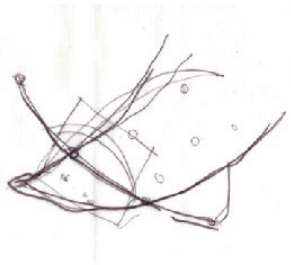
Some of the first sketches are looking at the historical development of kitchens. These sketches show the fire and hearth as a starting point and central aspect of the kitchen, Earthy materials used in pots and pans as well as stone hearths were used in early kitchens. These sketches are reflected in the entry fireplace. Warmth on a cold winter day immediately greets the person much like kitchens of the past

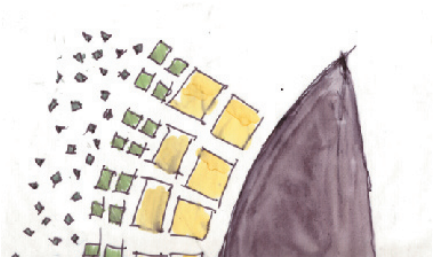
The knife is a mandatory tool used in the kitchen. Many times a chef will be judged by the skill at which they use their knives and the way they take care of them. This study shows the different curves and shapes used in the design of the knife.

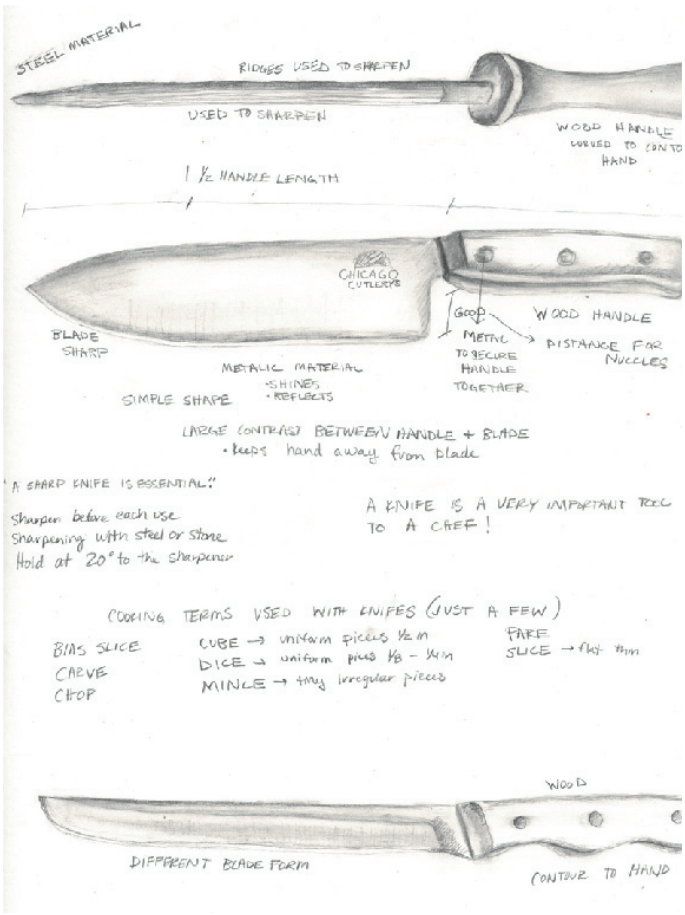


The final sketches are reflecting the use of natural herbs from a garden in cooking. Fresh ingredients are also necessary for flavorful meals. These studies are exploring the possibilities of both a farmers market and herb garden. Bismarck at this point does not have a suitable place for their local farmers market. This farmers market will make it easy for students to get fresh produce as well as create a place for the community to shop as well.







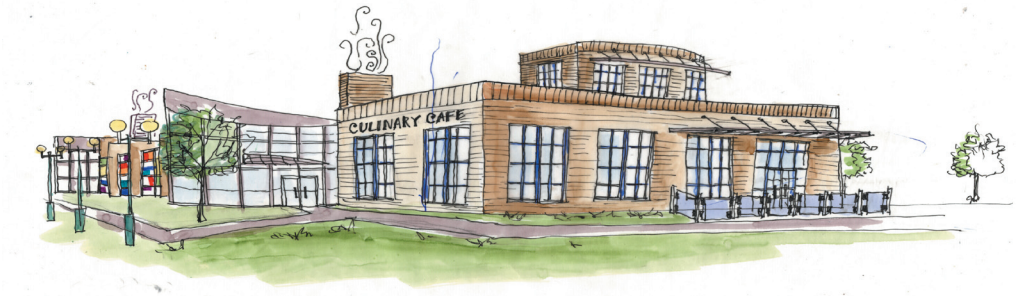


The Knife as an important kitchen tool. Also detailed in the entry sketches.

CULINARY ARTS

Herb Garden Exploration

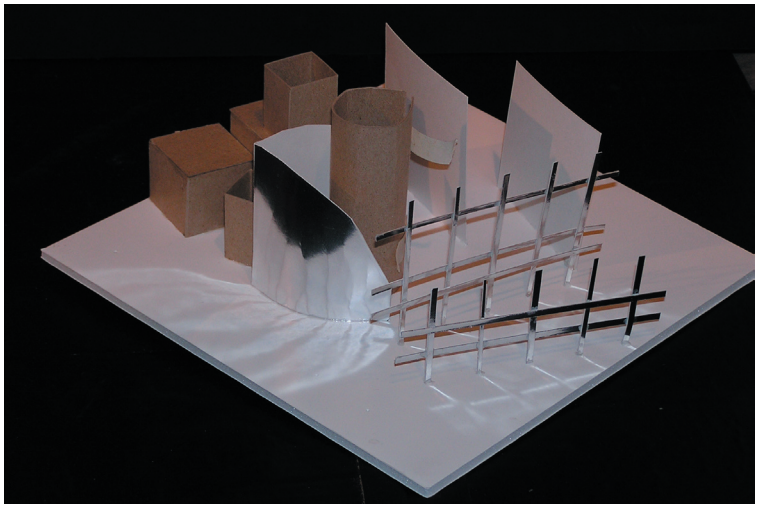
Restaurant Perspective Sketch



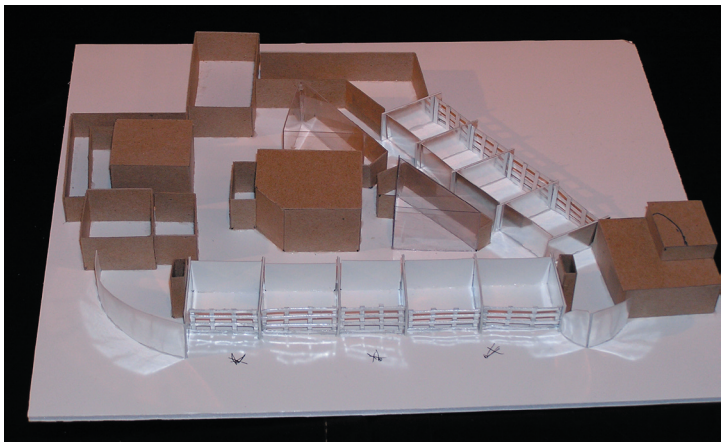
Farmers Market Sketch

CULINARY ARTS

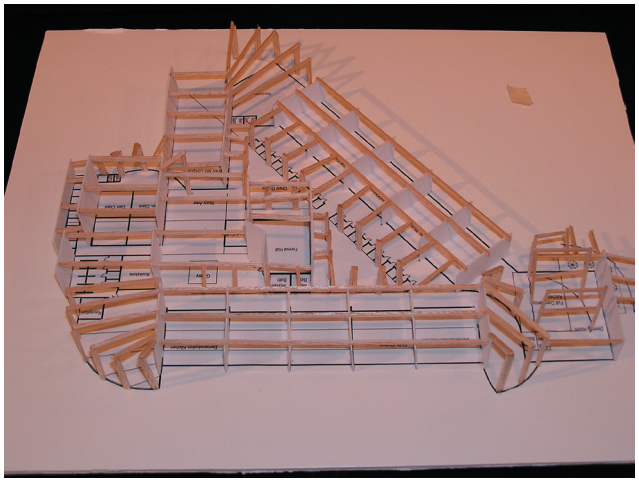
PROCESS MODELS



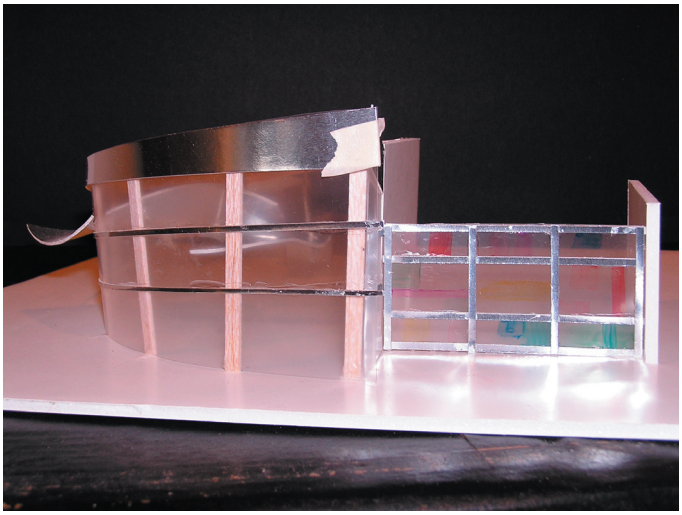
Original Concept Model
Replicating objects from a kitchen.



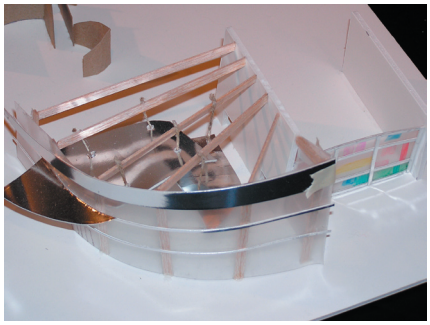
Massing Model



Structural Model



Detailed entry model and colored glass.



CULINARY ARTS

Project Solution Documentation

Culinary School for Healthy Eating

Culinary Institute for Healthy Eating

Angela Otteson

Healthy choices without sacrificing taste.

Senior Design Thesis

North Dakota State University

CULINARY ARTS

Angela Otteson

Healthy choices without sacrificing taste.

Senior Design Thesis

North Dakota State University

Project Introduction

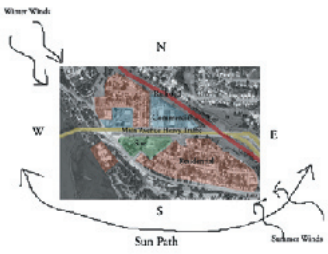
GOAL

An ounce of prevention is worth a pound of cure. Food is a very important part of our lives yet is very often neglected. The main research area of this project was designing a culinary school that keeps healthy living, delicious food and a balanced life as its primary objective.

USER_CLIENT DESCRIPTION

The culinary school's clients are the students and the community. The student body will support the school by attending and paying tuition and the community supports the culinary school by attending community focused classes and eating in the restaurant. Professors, other faculty members, and maintenance will also use the facility. The students will be able to obtain their certificates for baking and pastry as well as the culinary arts. Students will need access to both pastry kitchens as well as regular kitchens. Other necessities such as a computer cluster, library, and bookstore will also be part of the school's requirements.

The school will be involved in the community by teaching healthy eating and food preparation to the public. The school will have a special lecture hall providing demonstration and group instruction for this purpose. Community members will also be able to eat and taste food at the on site restaurant that will be operated by the students. This will also be a way for the community and the students to interact. The community will be encouraged to ask questions of the students and can learn more from them.



WINDOW DESCRIPTION

These colorful yet random windows reflect the art in food preparation and presentation. The Polychromatic Translucent Panels create the glass curtain wall visible from both Main Avenue and Holiday Drive.

Colored Glass Window Detail

Culinary School for Healthy Eating

Main Entrance

MAJOR PROJECT ELEMENTS

Instruction Spaces:

Skills Kitchen
- Individual work stations. Here students would learn how to demonstrate skills and techniques in a study hall environment.

Demonstration Kitchen
- Auditorium setting for observation by students of demonstrations by instructors. This space will also be used to teach the public healthy food information and recipes.

Advanced Kitchen
- Side by side work stations in an active kitchen environment where students complete tasks.

Intro Kitchen
- A kitchen to learn cutting techniques and basic sauces.

Garde manger Kitchen (Cold Kitchen)
- Where cold foods are prepared such as salad, pates, chaud froids and other decorative dishes

Butchery Kitchen
- A kitchen specifically for getting meat ready for cooking.

Pastry Studio/Bakery
- Specific kitchen for the preparation and cooking of baked goods and pastries.

International Kitchen
- Used for learning international foods.

Academic Spaces:

Library
- Culinary resources and a place to get away and study

General classroom
- Used for general lecture

Gallery
- Student work will be on display can also double as the formal hall. Another space used for banquets.

Computer Lab
- The computer lab will aid with using technology as part of the curriculum.

Restaurant:

Full Commercial Kitchen
- Used for the on site restaurant and used by the students to serve the Berners community. Everything needed in an off site kitchen will be included to teach complete restaurant experience.

Dining room
- Seating for a large number of people. There will also be specific host stations and wait stations.

Formal Hall
- Used for graduation ceremonies and other banquets that are held at the school.

Administration:

Reception
- Information desk for visitors and the community to get directions and information.

Bookstore
- Students can come here to purchase necessary cooking supplies and books that are not included in tuition. Will be open to the public as well.

Admissions Offices
- These offices are used for the faculty that deal with the constant admissions and graduations of students in the culinary programs.

General Education Offices
- There are required general education courses on this campus and these offices will support these professors.

Chef's Offices
- The bulk of the professors are chefs and these offices will support their needs.

Outdoor Spaces:

Herb Garden
- Regional herbs will be grown on site that can be used in the cooking of foods and in classes. Will help students to understand this aspect of cooking.

Terrace for outdoor dining
- This space will be associated with the restaurant and used on a beautiful day for outdoor dining.

Entry Section

CULINARY ARTS

CONCEPTUAL UNDERPINNINGS

The underlying research that will affect most of the design is healthy eating and how it changes the preparation of foods. There is a balance between every source of food that we eat. Just looking at the food pyramid and how its servings are proportional to what we need for energy will drive what happens in a culinary school. Health research is changing all the time and this aspect of changing health concerns will show up in the need for a kitchen to evolve with new health food concerns and conditions.

Another area of underlying conceptual research is the history of kitchens and their transformation. There is great art and care taken in the preparation of food.

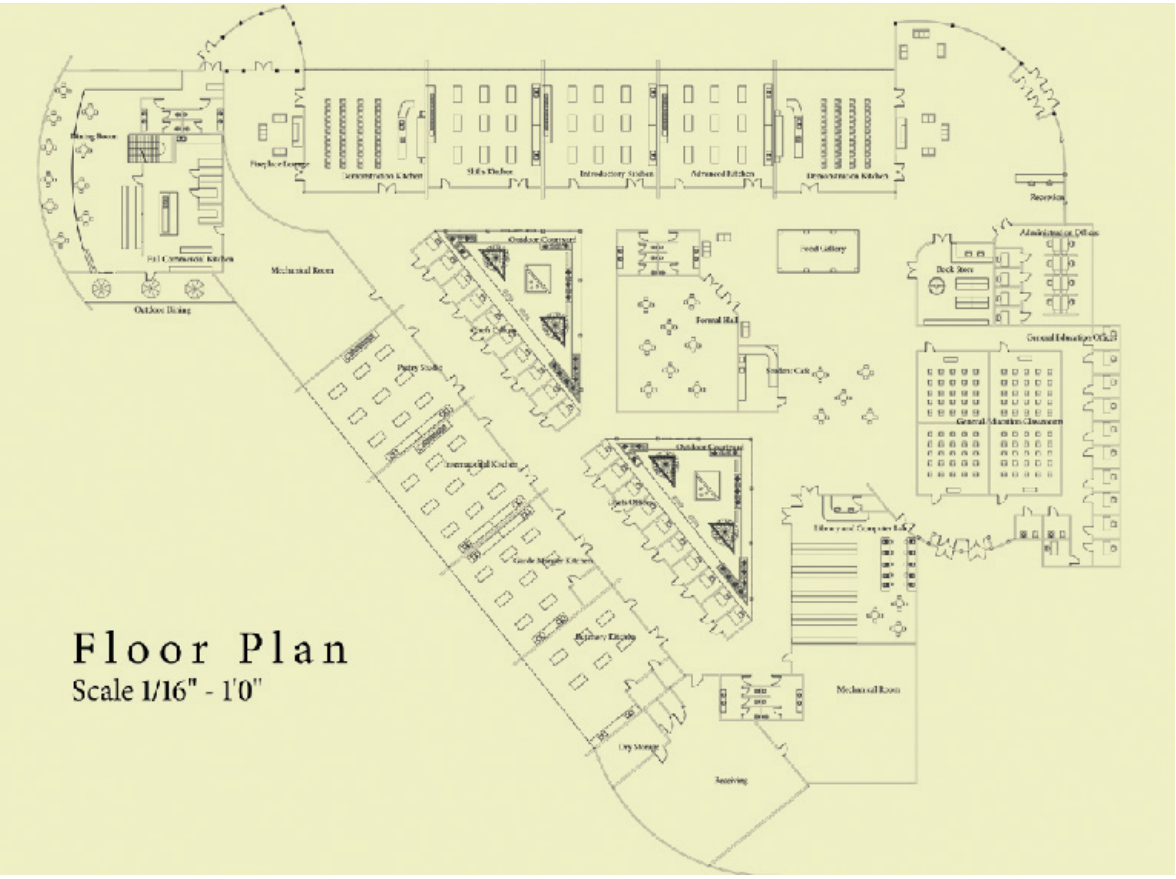
The final area of research is the artful presentation of all that surrounds a persons senses during the dining experience.

Artful Food Presentation

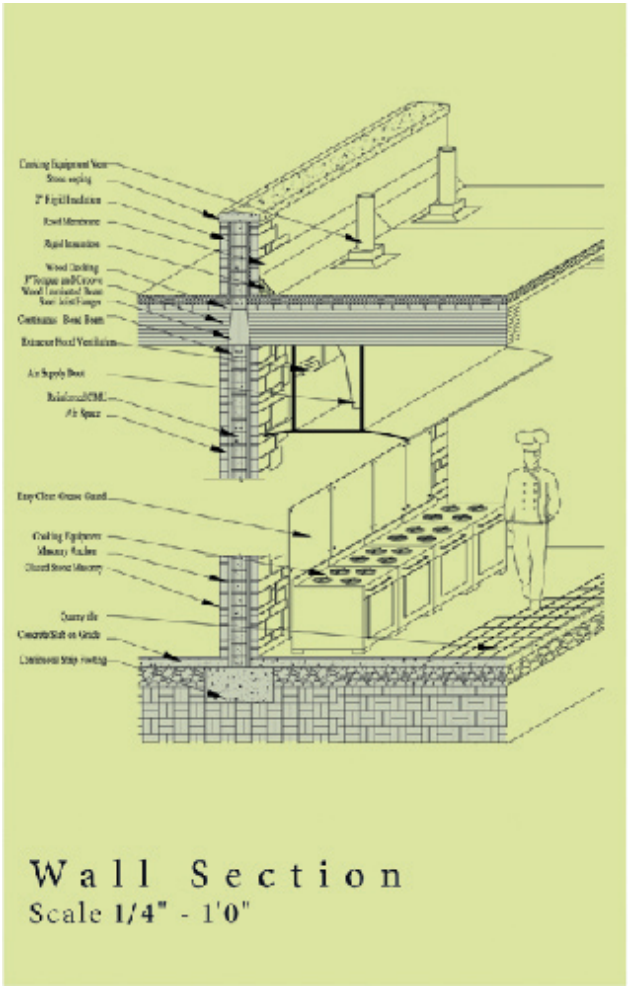
Culinary School for Healthy Eating

Culinary School for Healthy Eating

CULINARY ARTS

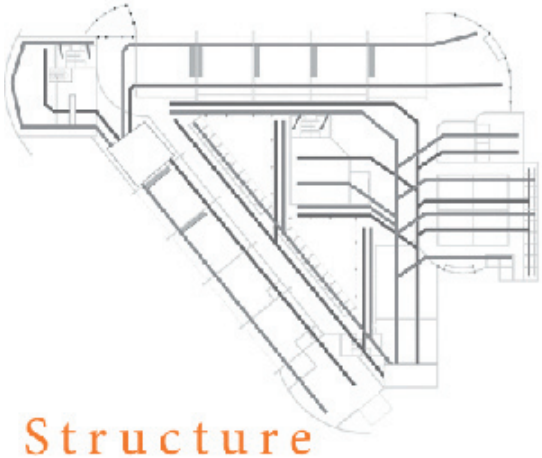


Culinary School for Healthy Eating

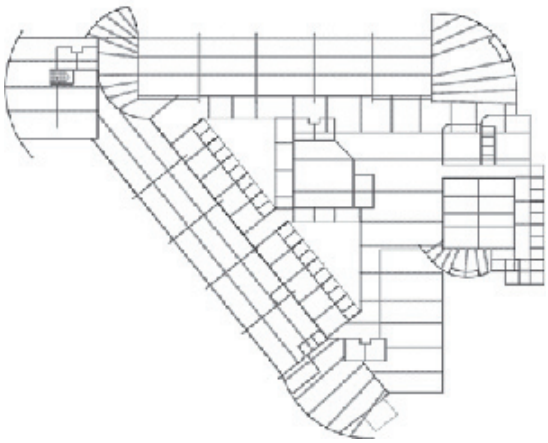


Wall Section
Scale 1/4" - 1'0"

HVAC



Structure



CULINARY ARTS

Culinary School for Healthy Eating

CULINARY ARTS

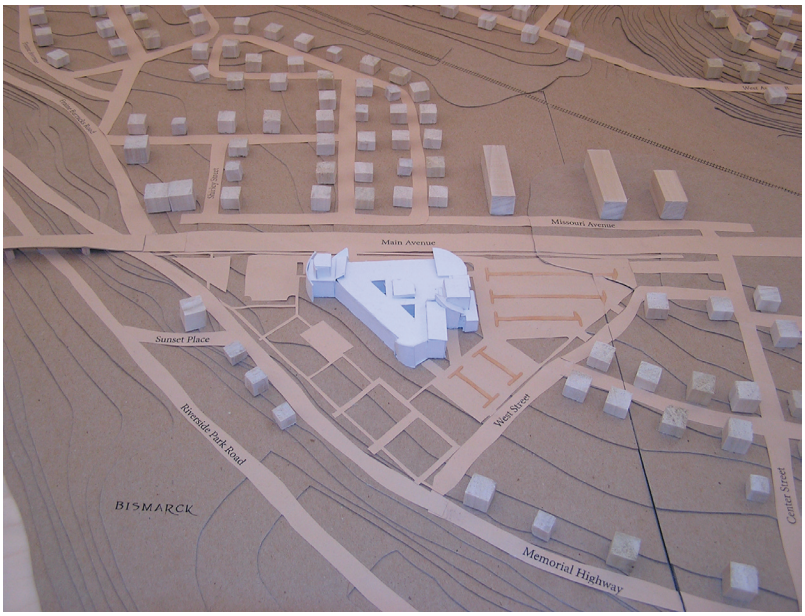
Culinary School for Healthy Eating

CULINARY ARTS

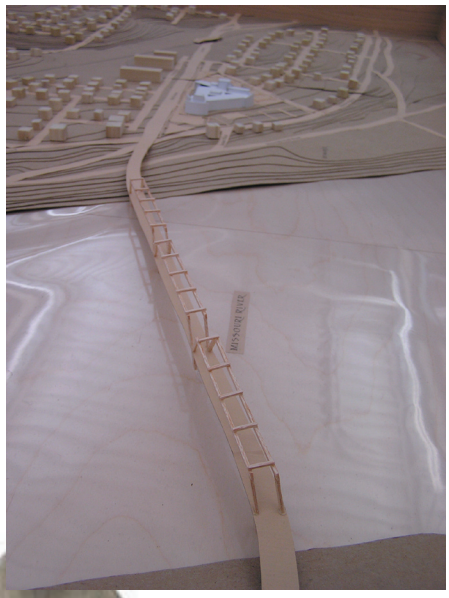
Culinary School for Healthy Eating

CULINARY ARTS

Final Model



Site specific photo.



View looking across the river from the Mandan side.

CULINARY ARTS

PROJECT DESCRIPTION

- **Cook up an image for you.**
  - **An excerpt from** *Kitchens: The Culture of Restaurant Work* **by Gary Alan Fine.**

Goals:

- **To design a culinary institute that is well balanced.**
- **To design a culinary institute that reflects the art in the proper preparation of food.**
- **To design a culinary institute that reflects the change in food preparation over time.**

- **The students will be able to get their certificates for baking and pastry as well as the culinary arts. Students will need access to both pastry kitchens as well as regular kitchens.**
- **Cooking is much like architecture in that they both consist of constraints. Therefore there is an interesting interaction between the events happening within the building and the building itself.**

PART OF MY POWER POINT PRESENTATION

ARTFUL FOOD PRESENTATIONS

• Nouvelle Cuisine, a way of cooking emerged in the 1960's. Chef's are encouraged to use fresh ingredients and eliminate rich sauces.

•Visual Presentation is emphasized with the food itself.

•Chefs try to create a dishes that you can take a bite of and still appreciate the composition.

• Line, shape, color and height are used to invent their presentations. These design tools are a classic invention from French cooking techniques.

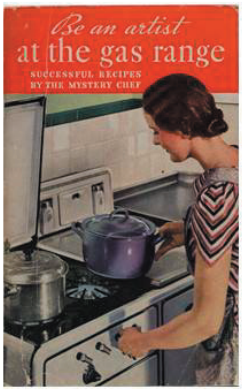
• Apply these principles to the institutes architecture.

EVOLUTION OF THE KITCHEN

- Large centrally located fireplaces with stone mantels were used to cook food.
- Most women liked to cook with wood instead of coal in the eighteenth century.
- The main baking was done in a separate bread-oven heated with brushwood. When the wood had burnt away the ashes were raked aside and a batch of loaves put in.
- Basic terracotta pots and pans held the food over an open pit fire.

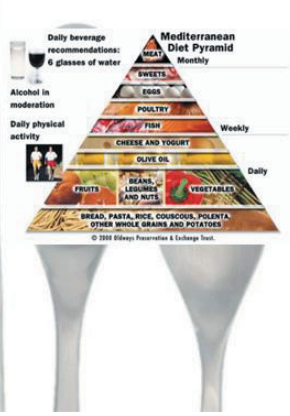
EVOLUTION OF THE KITCHEN

- The day of the great open hearth ended in 1780.
- A patent was taken out for the first kitchen range.
  - It was a cast iron oven on one side and a boiler, for heating water on the other.
- All of these changes point toward the fact that kitchen technology is always changing.



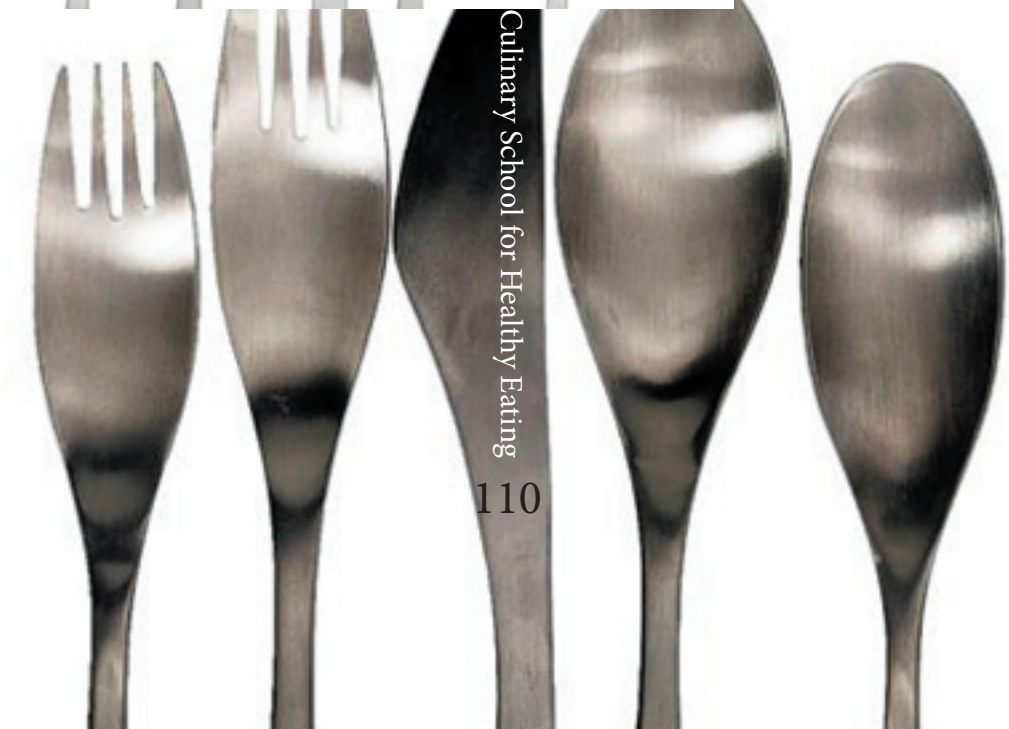
BALANCE IN EATING

- Is there a perfect eating plan?
- Probably not.
- Everyone has unique genetic tendencies toward certain diseases, so food components such as salt or fats pose different risks for different people.
  - Eat more fruits, vegetables and whole grains.
  - Reduce saturated fat and cholesterol.
  - Limit sugar and salt.
  - Drink alcoholic beverages in moderation, if at all.
  - Eat moderate-sized portions.
  - Include physical activity in your daily routine.



BALANCE IN EATING

- The triangular shape of the pyramid shows you where to focus when selecting foods. Foods that you should eat the most of create the large base of the pyramid, and those foods you should eat sparingly form the smaller tip.
- The main conclusion for healthy eating is a balance and a system of moderation in the foods we eat.



APPENDIXES

CULINARY ARTS

CULINARY ARTS

Statement of Intent

Culinary School for Healthy Eating

Healthy choices without sacrificing taste.

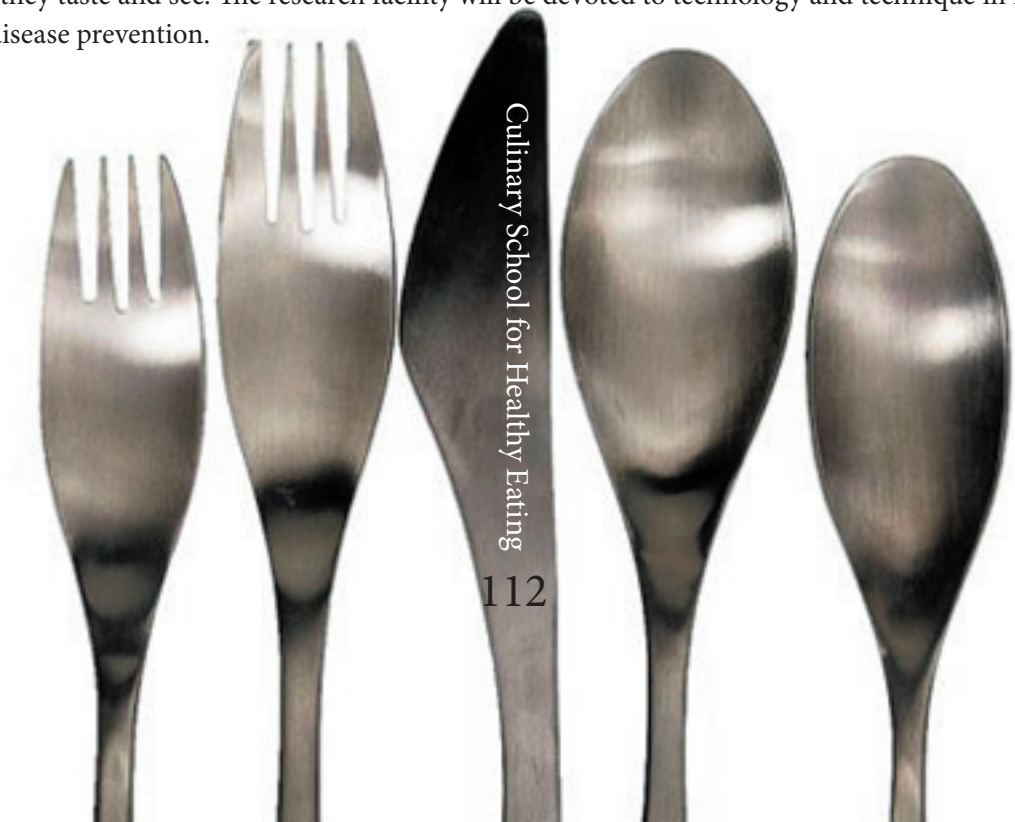
An ounce of prevention is worth a pound of cure. Food is a very important aspect that can make a big difference in our lives yet is very often neglected. For example, eating the right foods can prevent the risk of developing certain diseases such as cancer and heart disease. It is also helpful in treating diabetes and high blood pressure. Our society tells people if its healthy for you it will not taste good. It is time to change the way people think about healthier eating and good tasting meals.

I have an interest in culinary arts and in kitchen design. I wish to learn how to design a modern and healthy kitchen. This project will involve multiple complex kitchens and will help me to understand what is necessary for today's changing restaurants.

The main intent of this thesis project is to design a culinary school that is well balanced. According to the food pyramid there is a hierarchy of foods and quantities that are healthy for a person. The design of this school will focus on being balanced not only in the food that is created, but in the architectural design and its natural surroundings. My design theory will be based on this balance. This balance leads to my underlying premise which is the use of art in the proper preparation of food. Food preparation over time has evolved changing into what it is today. Much of my research will be in the history of food preparation and how it informs architecture.

I chose Bismarck because there is a site next to the river and close to downtown that will have the right balance of technology and nature.

The design of this school will allow for change in the technology of food preparation and the new knowledge of what is and what is not healthy. The main design of this thesis will be a culinary school and research facility. The culinary school will both teach its students as well as reach out to the community. There will be a restaurant where people can come to eat the healthy food and be inspired by what they taste and see. The research facility will be devoted to technology and technique in food and disease prevention.



CULINARY SCHOOL FOR HEALTHY EATING

Healthy choices without sacrificing taste.

PROPOSAL

Design Thesis Proposal:
Angela Otteson 2004-2005

Title: Bismarck Culinary Institute

User Client Description:

The client for this culinary school is the students and community. The student body supports the school by attending and paying tuition and the community supports the culinary school by attending community focused classes and eating in the restaurant. Others that will be using this facility are the professors and other maintenance and faculty members.

The students will be able to get their certificates for baking and pastry as well as the culinary arts. The students will need access to both pastry kitchens as well as regular kitchens. Other support such as computer clusters library and bookstore will also be part of the school's requirements.

The community aspect of this school will focus on teaching healthy eating and food preparation. The school will have a special lecture hall providing demonstration and group instruction for this purpose. Community members will also be able to eat and taste food at the on site restaurant that will be operated by the students. This will be a great way for the community and the students to interact. The community will be encouraged to ask questions of the students and can learn more from them.

The culinary school will be designed for about one thousand students which will require about fifty faculty workers. There will need to be ample office space and janitorial space to keep the school clean and organized. A staff of at least ten janitors and maintenance will be needed due to the large kitchens and equipment. Since there will be about one hundred staff, at least two hundred parking spaces will be required.

Student Class hours	7:00am-5:00pm September-April
	9:00am-4:00pm May-August
Restaurant hours	4:00pm-11:00pm year round

CULINARY ARTS

Major Project Elements:

Library
Italian food and wine kitchen
Bookstore
Faculty Offices
Hospitality Center
Demonstration Auditorium
Classrooms and kitchens
Computer Lab
Herb Garden
Pastry and Baking rooms
Wine storage
Dining for Students
Formal Hall
Onsite Restaurant
Mechanical rooms and support spaces

Site Information:

This is a very exciting site because it is close to the downtown area and yet it has a great view of the Missouri river. Every aspect of this site will lead to a great balance of design which will work well with the main emphasis of this project.

The economic base of Bismarck is distributed as such, 40% of the employed population makes less than $25,000, 65.2% of the employed population makes less than $35,000, and 49.6% of the area's households have an annual income of below $35,000. While this seems low the living cost in Bismarck is considerably lower than other states. Students from all over will be able to attend the college so this school isn't entirely based on the income of just the Bismarck, Mandan region. The median income for a household in the city is $39,422, and the median income for a family is $51,477. The population of Bismarck is 55,532 and Mandan is 16,718 bringing the total in the two cities to 72,250. This is a great population to start a culinary school in because the school can grow with the city. The majority of the population is between 20 and 55. This age distribution will also affect the culinary school because these are the people who can still affect their health for later years. The race distribution is weighted heavily with, white being 95.6 % and American Indian 3.4 %. As you can see there isn't a lot of diversity in Bismarck. Having this culinary school in Bismarck will introduce the community to different cultural food and broaden horizons in the food domain.

Bismarck was started when the Northern Pacific railroad stretched out across the east bank of the Missouri River in 1873. The city was named after the Northern Pacific Railroad German, Otto Von Bismarck. There was a great home to get investments from German capital to invest in the railroad construction. As of today Bismarck is still a hub for the state of North Dakota.

Annual average weather in Bismarck is a high temperature of 53.1 degrees and precipitation of 15.48 inches. January is the coldest month with averages of 20.6 degrees and an average precipitation of .45 inches. July is by far the hottest with average temperature at 84.7 degrees and precipitation of 2.14 inches. One of the things this landlocked state is known for is its extreme temperatures know to change temperatures in the double digits at a moments notice. This macroclimate is very drastic and will be a very large contributing factor in the design of this school.

The size of this site is fairly large considering it is in an already developed part of Bismarck. The approximate square footage is 7.2 acres which is 313,632 square feet.

Location is everything and this specific site has a great location. The address of my site is 1215 W Main Ave. in Bismarck. This site is really close to downtown and has a great connection to Mandan next to the bridge over the Missouri river. The other surroundings are a neighborhood and very underdeveloped commercial. The southwest side of the site is flanked by Memorial Highway and the Southeast side of the site is flanked by Holiday drive. Very festive street names if you ask me.

I would say a major landmark close to the site is the Missouri River. Bismarck is a community party based and focused on the river. Bismarck is also the capitol of North Dakota, leading to the second landmark in the local area. The state capital building is the tallest high rise in North Dakota.

Since the site I chose is next to the river there is a steep bank on the west side of the site. However there is a road that cuts between the site and the bank so most of the site is on flat ground. There is a slight slope but really not much. The current building has been around for quite some time so I'm not worried about the changing topography all that much.

Right now the site has an old decaying conference and hotel center on it. The plans for the site thus far are to tear down everything but the concrete tower. The site also has a very decrepit parking lot with weeds growing out of it and cracks everywhere. There are a few trees on the west side of the lot but over all there isn't much vegetation on the site.

One specific environmental affect on the site is prevailing winds which come from the north, north west at about 10.5 miles per hour. A second environmental effect on the site is the sun path that arch's over the south. In Mid July at noon the sun is at 70 degrees in the sky. In mid December at noon the sun is at 20 degrees in the sky. Combining the height of the sun in the sky with the number of clear days and cloudy day's shows when the sun is higher in the sky is also when there are less cloudy days. When the sun is lower in the sky the cloudy days are a lot greater. Looking specifically at these environmental issues in the state of North Dakota will have a huge affect on the building design.

When getting around Bismarck on public transportation a person can use the CAT, capitol area transit. There are two major bus routs that go directly by the site that will bring students to the mall and downtown. Once at the mall you can transfer to other bus routs that take you all over the Bismarck area.

Emphasis:

The main emphasis is to design a healthy culinary school that is well balanced. Balanced is in the sense of healthy and environmentally friendly in every way. Prevention of illness in the food we eat will be weaved into every aspect of this building. The way the building is designed and constructed will have this balance weaved into it.

The development of food over hundreds of years is an exploration that needs to be investigated. This is my second area of emphasis.

The last emphasis is looking at the way people enjoy their dining experience. This includes everything from the entry into the eating place to the plate that you eat on. All the senses are affected in the dining experience and I would like to explore that area of gastronomy.

Documentation of the Design Process:

The research that I find will be presented in both my final design product as well as the thesis document. I am not sure yet how much of my final presentation will be computer or hand drafted as much of my research will point to the direction of style in my presentation. My design process will also be represented in my model and site model. Massing studies will be done as well as a finished model.

Plan for Proceeding:

Definition of Research Direction:

One of the main research areas of this project will be designing a culinary school that keeps healthy living as number one. Of course that will be in culinary instruction but the environment that they cook in as well. Nutraceuticals, Genetically engineered food, Organic foods, Dining out, Eating in, Grocery shopping, Wine, Food safety, Diminishing supply and Agriculture are some of the top concerns in today's changing eating habits. Researching a healthy diet and some of the technical aspects of dietary research such as the balance of the food pyramid will help me to design a building with this focus in mind.

Another research direction is culinary preparation is an art that has evolved over the years. There is an art to presenting food not only in the ambiance of the dining experience but the actual food itself. By researching the history of culinary development and how it has changed will help me understand how food with influence architecture.

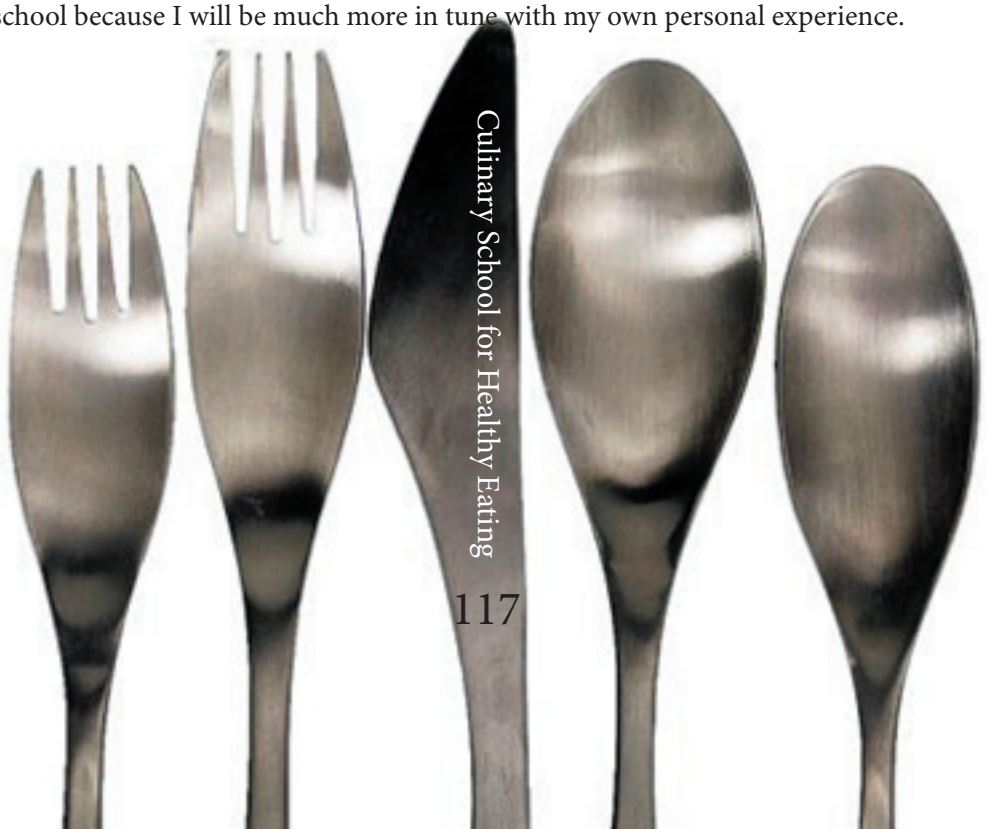
An interesting area of research will also be in the atmosphere that these cultures eat their food. Dinning is an experience for all the senses and researching how the dinning experience affects all the senses is my final area of research.

Design Methodology:

I plan on using three of the four design methodology research categories. The four design methodology categories are observation, literature, interview and photography. Observation of the site will be the first thing on my list to document. Having a good grasp of the site is very important in the design process. Drawing analytical pictures of the site will be one of the main ways to show this research. I have already used a lot of literature in this thesis process but that will be greatly expanded on. Case studies are one particular literary research that will greatly influence my design methodology.

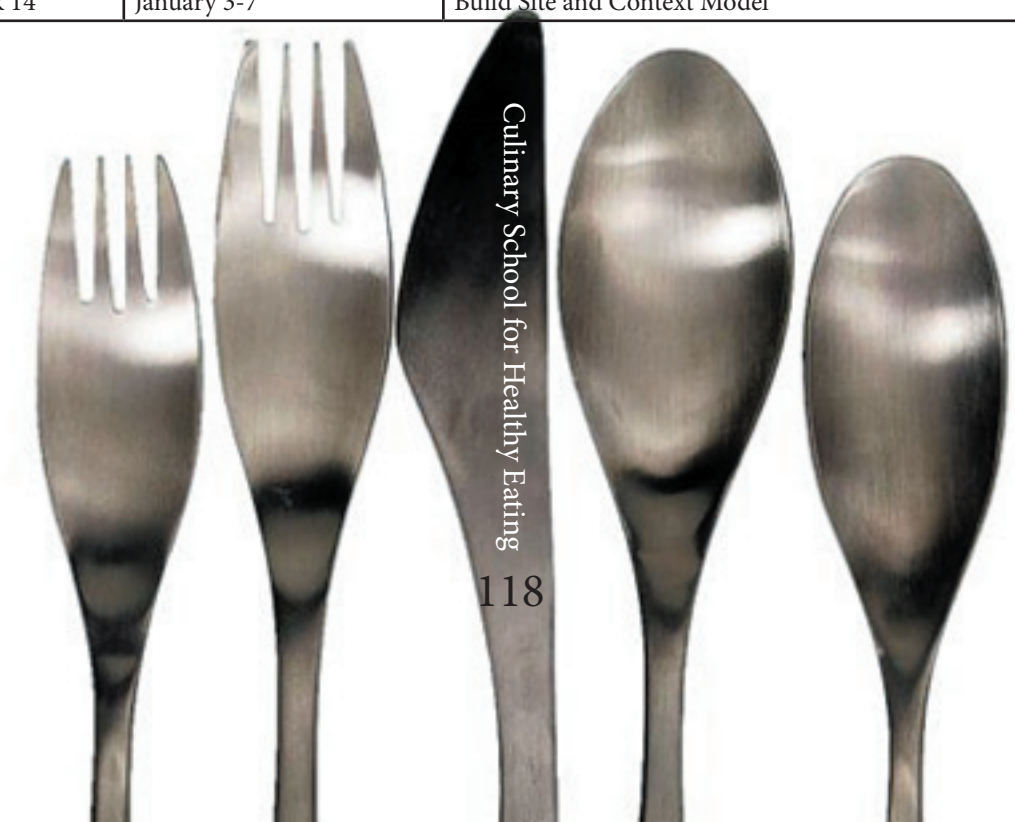
The owner of my site has already done a lot of research into what could possibly be done one this piece of land. I would like to get an interview with Chad Wachter the owner of this property and talk to him a little about the possible potential of this site.

Personally I would like to expand on my own cooking and dining experience. I would like to take a long a notebook and write what I feel and taste while I am at different restaurants around the upper Great Plains region. Actually analyzing my feelings and observations will help me to design a culinary school because I will be much more in tune with my own personal experience.



CULINARY ARTS

Fall Semester	2004	
Week 1	October 4 - 8	10/7/2004 Thesis Proposal Due 10/7/2004 Turn in preference slips Research
Week 2	October 11-15	10/14/2004 Faculty return student preference slips to main office Research
Week 3	October 18 - 22	10/21/2004 Primary and Secondary Critics announced Research
Week 4	October 25 - 29	10/28/2004 Last day of Arch 561 Class Research Further Site Analysis Meet with Wachter Construction
Week 5	November 1 - 5	Research Define the Program
Week 6	November 8-12	Research
Week 7	November 15-19	11/15-11/19 Final week of Studio Research
Week 8	November 22-26	11/24/2004 Draft Thesis Program due to Primary Critic Research
Week 9	November 29 - December 3	Compile Research
Week 10	December 6-10	12/9/2004 Final Thesis Program due to Primary Critic 12/10/2004 Last day of classes
Week 11	December 13-17	12/17/2004 Last day of Finals
Week 12	December 20-24	Build Site and Context Model
Week 13	December 27-31	Build Site and Context Model
Week 14	January 3-7	Build Site and Context Model



Spring Semester 2005		
Week 15	January 10-14	1/11/2005 Class begins Concept and Schematic Design
Week 16	January 17-21	1/17/2005 Martin Luther King Jr. Holiday Concept and Schematic Design
Week 17	January 24-28	Concept and Schematic Design
Week 18	January 31- February 4	Concept and Schematic Design
Week 19	February 7-11	Concept and Schematic Design
Week 20	February 14-18	Design Development List of drawings needed
Week 21	February 21-25	2/21/2005 President's Day Holiday Design Development
Week 22	February 28 - March4	Design Development Build designed school for context model
Week 23	March 7-11	Mid-semester Thesis Reviews this week Presentation Drawings
Week 24	March 14-18	Spring break week Presentation Drawings
Week 25	March 21-25	Presentation Drawings
Week 26	March 28- April 1	Presentation Drawings
Week 27	April 4-8	Design Actual Presentation
Week 28	April 11-15	Presentation Drawings

Schedule Continue

Week 29	April 18-22	Finishing Touches
Week 30	April 25-29	4/25/2005 Thesis Projects Due 4:30 Memorial Union Ballroom 4/26-4/27 Exhibit in Memorial Union Ballroom 4/29/2005 Final Thesis Document Due to Primary Critic
Week 31	May 2-6	5/6/2005 Last Day of Classes
Week 32	May 9-13	5/12/2005 Final Thesis Document due at 4:30pm in the Department Office 5/13/2005 Commencement

Previous Studio Experience:

2nd Year

Fall: Vince Hatlen

- Spatial Study
- Library Nativity Elementary School
- Spring: Milt Yergens
- Systems Investigation
- Lofty Intentions multiuse Office Building
- Hitterdal Accessibility Addition
- New Lutheran Church Design
- Lachine Canal Bridge Charrette School Wide

3rd Year

Fall: Mohamed Elnahas

- NDSU Arboretum & Ecological Enrichment Center
- Universal Housing (Aging in Place)
- Spring: Steve Martens
- Fluid Motion Fitness Center
- Masonry Competition Center for Great Plains study

4th Year

Fall: Cindy Urness, Mark Barnhouse, and Josh Walter

- Urban Design
- Spring: Darryl Booker and Don Faulkner
- Multiuse House Downtown Moorhead
- Skyscraper San Francisco
- Kite Design

5th Year

Fall: Jay Waronker

- Olympic Medal Gallery
- Supreme Court Building

Culinary School for Healthy Eating

CULINARY ARTS

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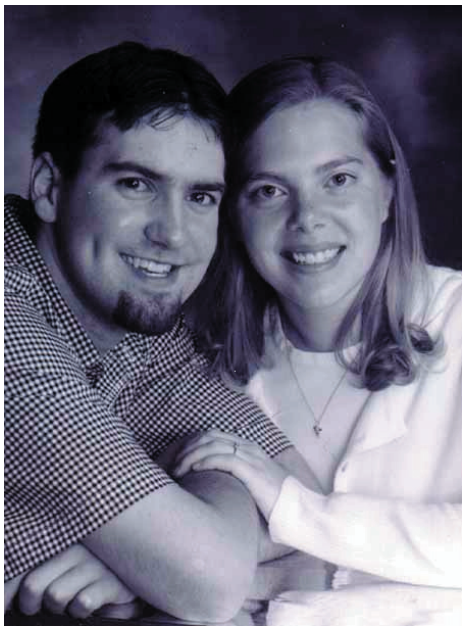
CULINARY ARTS

Angela Otteson

Thanks to my husband Jess who helped me get through the years. He was always there to help calm me down in the midst of the storm.



CULINARY ARTS