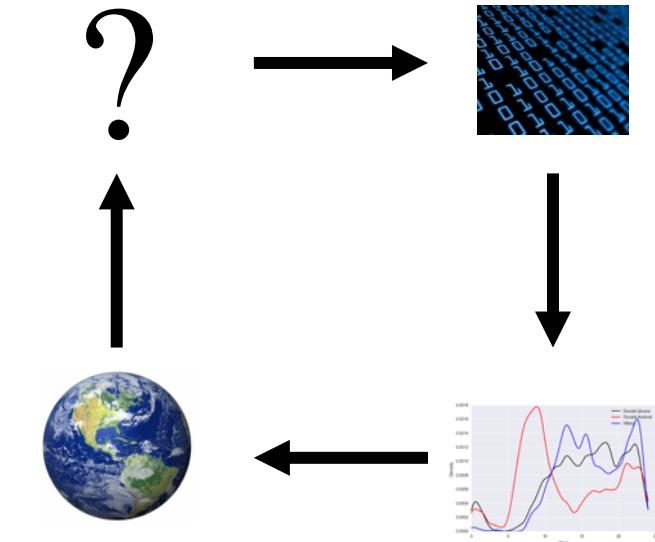


Experience Data Science with Food Safety in SF

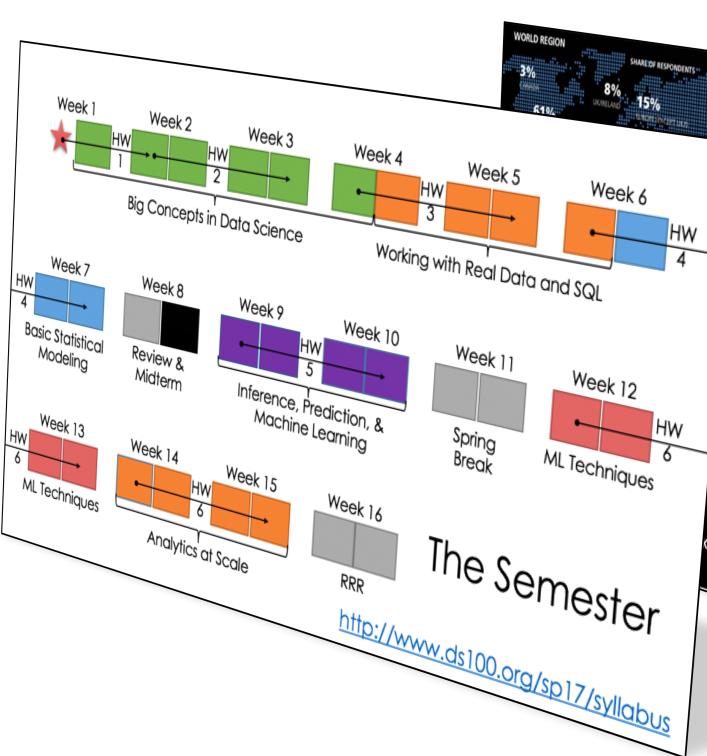
Slides by:

Joseph E. Gonzalez

jegonzal@cs.berkeley.edu

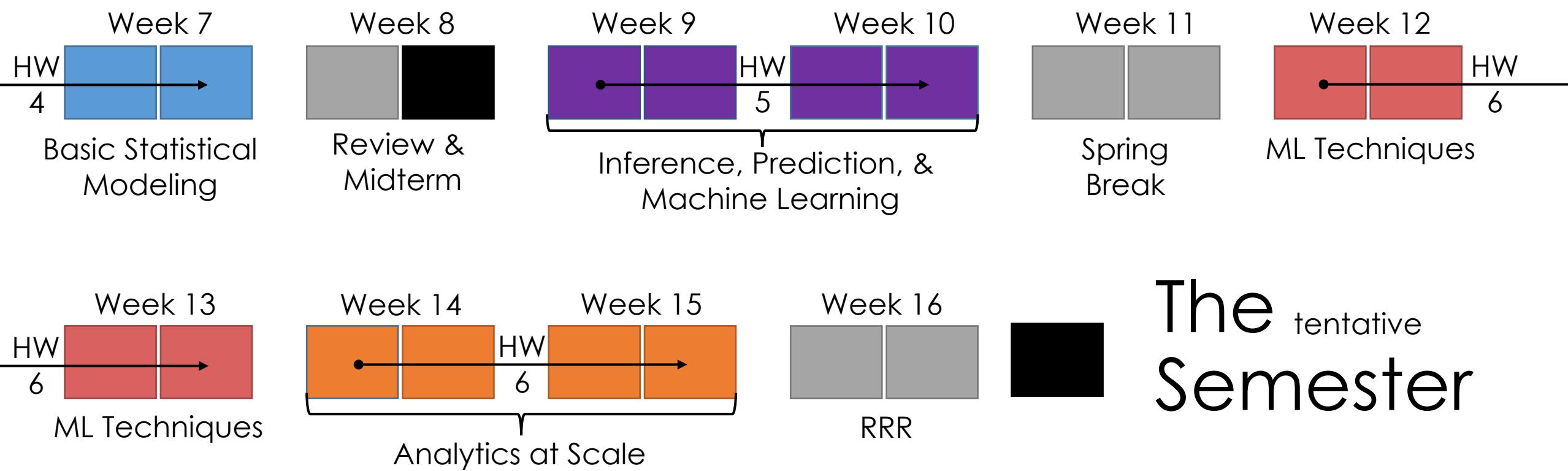
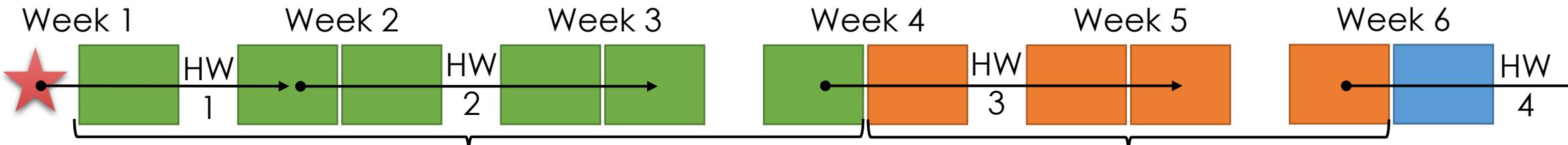


Yesterday: Overview of DS100



Taught by Faculty and TAs
Background & Perspectives





<http://www.ds100.org/sp17/syllabus>

Grades

[40%] 7 Homework: *be a data-scientist*

- 1 to 2 week long programming assignments

[13%] 13 Vitamins: *don't fall behind*

- Mini quizzes (1 per week of instruction)

[7%] 13 Labs: *improve computing skills*

- Completion graded

[15%] 1 Midterm: *checkpoint on progress*

- In class, healthy checkpoint

[25%] 1 Final

On Time Policy (don't be late)

- **5 days** of “slip-time” to be **used on homework** for **unforeseen circumstances** (e.g., get sick or deadline conflicts)
- After you have used your slip-time budget
 - **20% per day for each late day**
- If you are having trouble finishing assignments on time let us know!

Collaboration Policy: ***Don't Cheat!***

- Data Science is a collaborative activity
- You may discuss problems with friends
 - List their names at the top of your assignments
 - We may periodically analyze the collaboration networks
- **You must write your solutions individually**

Don't Cheat

- Content in the homework and vitamins will be on the midterm and final
- If you are struggling let us know so we can help!

Staying Up to Date

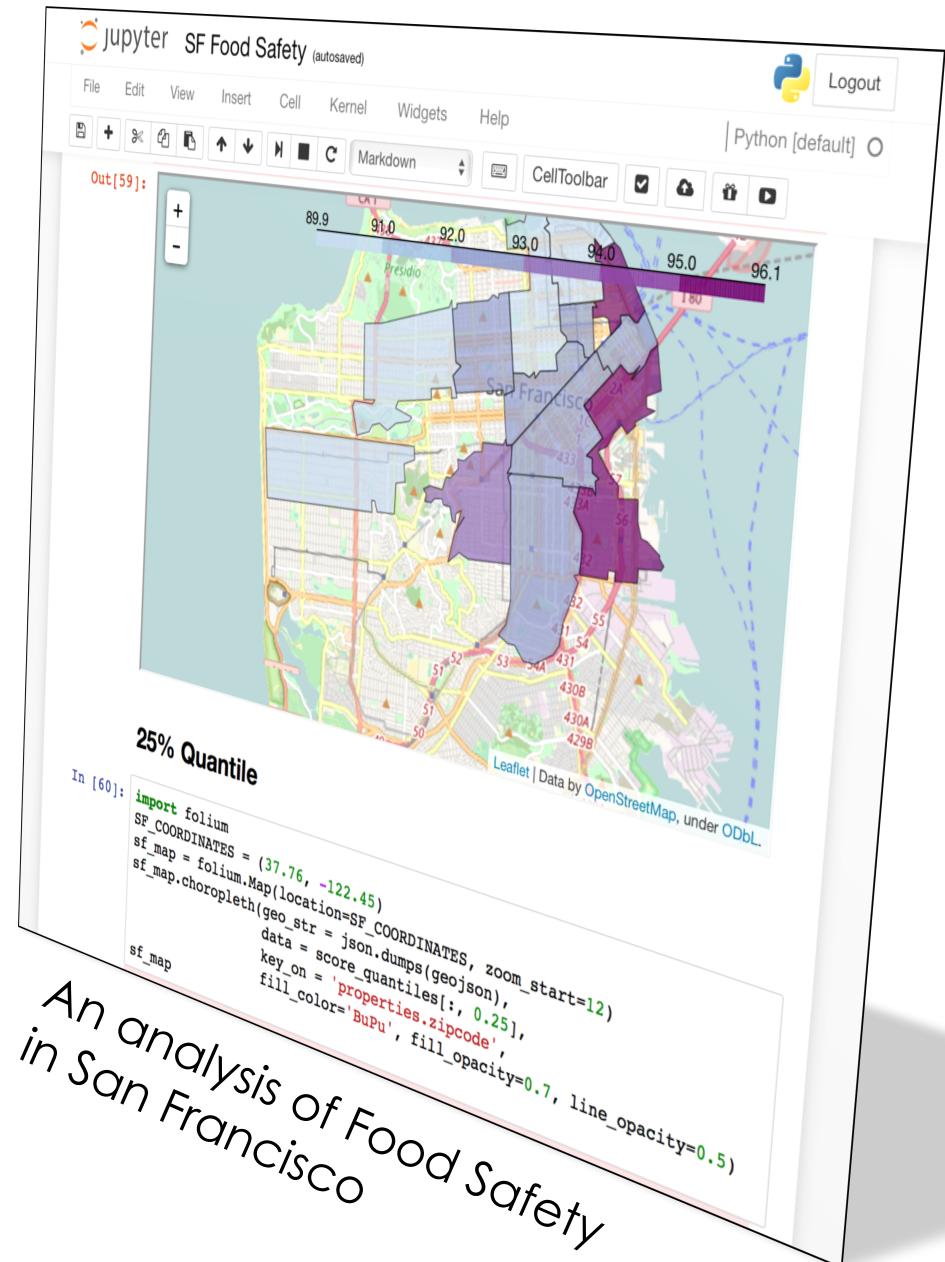
- Communication will be largely through Piazza
 - <http://piazza.com/berkeley/spring2017/ds100>
- We will also be updating the website with links to homework, lectures, and vitamins

<http://ds100.org>

Today

- Learn some skills
 - Jupyter Notebooks
 - Bash
 - Pandas
- Think like a data scientists
 - Asking questions
 - Manipulating data
 - Visualizing results

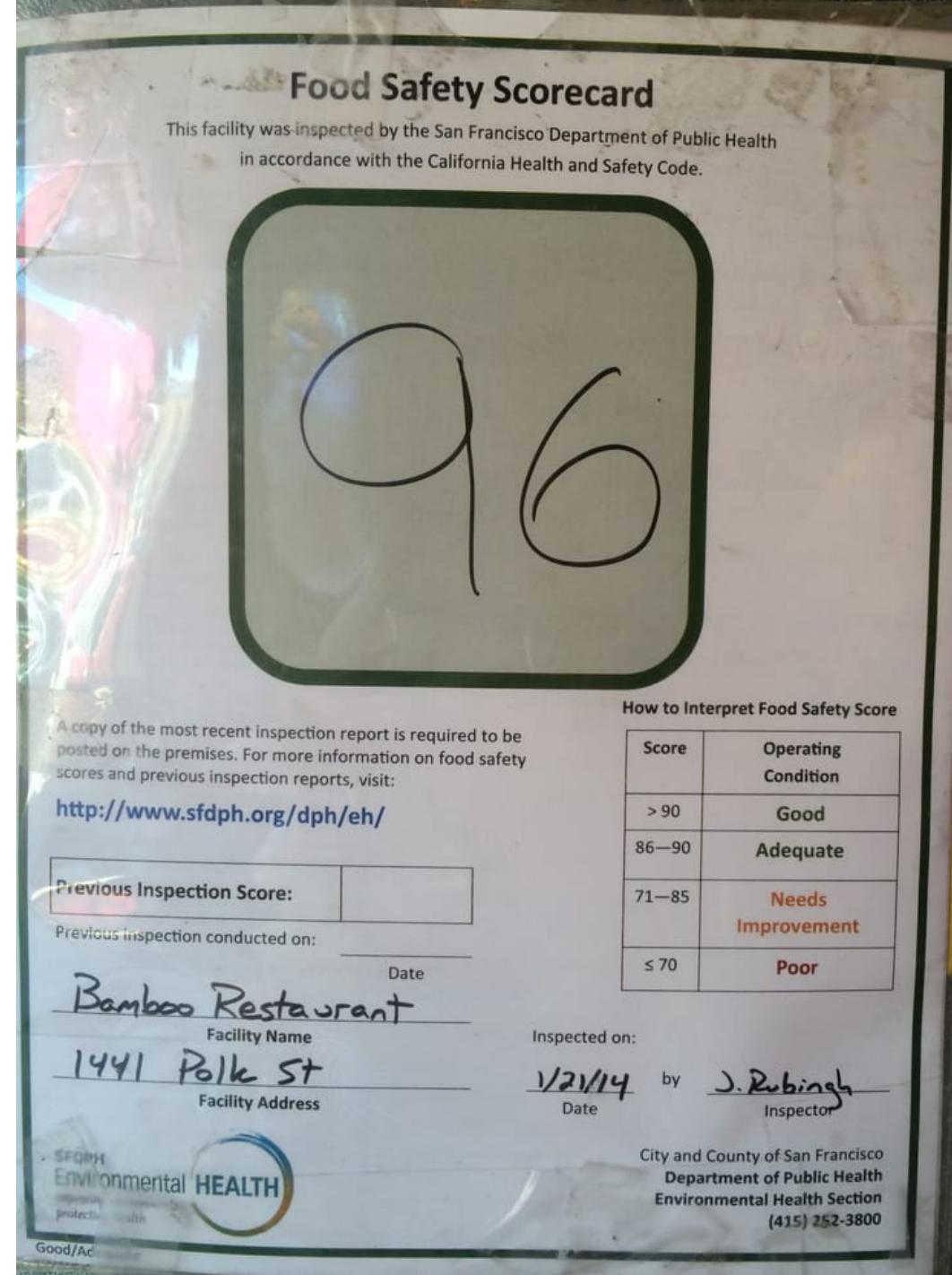
Inspired by Jonathan Dinu's (Berkeley Alum.) blog post: <https://github.com/hopelessoptimism/happy-healthy-hungry/blob/master/h3.ipynb>

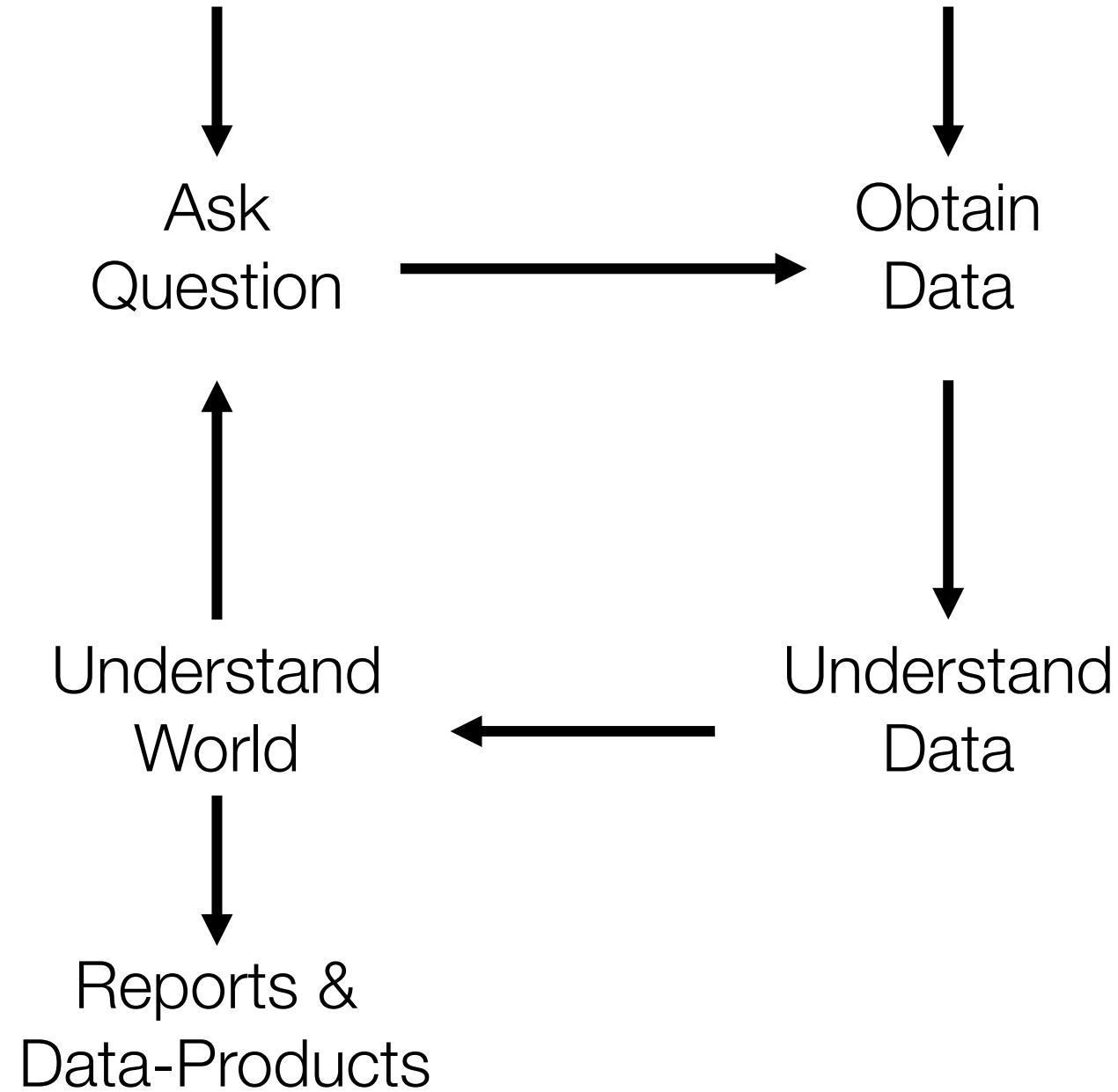


What does a score of 96 mean?

- Is that good?
- Would you eat here?
 - Have you eaten here?

In this lecture we will try to answer this question and build a better understanding of food safety ratings in SF.





Interested in Studying Food Safety in SF

- Is 96 a good score?
- How is the score determined?
- What are common issues?
- Are the regions of the city that are less safe?
- Are scores improving?



Ask
Question



Research: Domain Knowledge

Consult SF food safety
website

SF Health Network Laguna Honda

News & Media SFDPH Foundation Contact Us

San Francisco Department of Public Health

Search Frequently Asked Questions Where do I go for treatment?

About DPH Our Services Our Programs Healthy Living Records, Permits & Licensing Knowledge Sharing & Collaboration Diseases & Conditions Training

Environmental Health Air Quality Water Quality Noise Food and Agriculture Neighborhoods and Housing Environmental Hazards Business Regulation

Need quality Health care? Join the SF Health Network

SF HEALTH NETWORK SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH

Environmental Health

Food Safety Program: Restaurant Safety Scores

Find a Score

The Environmental Health Section maintains a publicly accessible database with the results of food facility inspections. To search the online inspection database, click [here](#). The information is updated weekly.

How the Restaurant Scoring System Works

In order to implement the food safety ordinance, the Health Department has developed an inspection report and inspection scoring system. After conducting an inspection of a food facility, the Health Inspector will calculate a score based on the violations observed and interpretation of the scores, see the table below. Violations can fall into three categories:

- High Risk: Violations that directly relate to the transmission of food borne illnesses, the adulteration of food products and the contamination of food-contact surfaces.
- Moderate Risk: Violations that are of a moderate risk to the public health and safety.
- Low Risk: Violations that are low risk or have no immediate risk to the public health and safety.

Score	Operating Condition Category	Food Safety Score Categories and Interpretation	Inspection Findings
>90	Good		<ul style="list-style-type: none">• Typically, only lower-risk health and safety violations observed• May have high-risk violations
86-90	Adequate		<ul style="list-style-type: none">• Several violations observed• May have high-risk violations
71-85	Needs Improvement		<ul style="list-style-type: none">• Multiple violations observed• Typically, several high-risk violations
Less than or equal to 70	Poor		<ul style="list-style-type: none">• Multiple violations observed• Typically, several high-risk violations

Most cases of high risk violations require re-inspections to ensure that conditions are improved. Food establishments are required to post the inspection report in a clearly visible place to the general public and patrons of the establishment. The Department's policy is to post the inspection report so that the public does not have to ask to see the report.

What is the "Symbol of Excellence"?

The Symbol of Excellence recognizes food preparation and service establishments that exemplify high standards of food safety. Food establishments that prepare and serve foods are required to post their current food safety inspection and service report on the premises so as to be clearly visible to patrons of the establishment. The Symbol of Excellence is issued only to a food preparation and service establishment and will include a food preparation and service establishment operating in conjunction with a food product and marketing establishment. The Symbol is not issued to a catering facility, a temporary facility, food demonstrations, commissary, and vending machines. The Symbol of Excellence is only issued to establishments that receive three successive scores of ninety (90) percent or higher with no major violations as set forth in the food inspection report.

<https://www.sfdph.org/dph/EH/Food/Score/>

HELPFUL LINKS

[Food Safety Program Home](#)
[Restaurant Inspections](#)

Research: Domain Knowledge

Consult SF food safety website

The screenshot shows the SF Health Network website for the Department of Public Health. The top navigation bar includes links for News & Media, SFDPH Foundation, Contact Us, and social media icons. The main menu has categories like About DPH, Our Services, Our Programs, Healthy Living, Records, Permits & Licensing, Knowledge Sharing & Collaboration, Diseases & Conditions, Training, and more. A search bar and frequently asked questions are also present. The Environmental Health section is highlighted. Below it, the Food Safety Program: Restaurant Safety Scores page is shown, featuring a search bar, a link to find a score, and information about the inspection database. A sidebar on the right lists helpful links for the Food Safety Program Home and Restaurant Inspections.

Food Safety Score Categories and Interpretation

Score	Operating Condition Category	Inspection Findings
> 90	Good	<ul style="list-style-type: none">Typically, only lower-risk health and safety violations observedMay have high risk violations
86-90	Adequate	<ul style="list-style-type: none">Several violations observedMay have high-risk violations
71-85	Needs Improvement	<ul style="list-style-type: none">Multiple violations observedTypically, several high-risk violations
Less than or equal to 70	Poor	<ul style="list-style-type: none">Multiple violations observedTypically, several high-risk violations

Grade inflation?

Most cases of high risk violations require re-inspections to ensure that conditions are improved.

Research: Domain Knowledge

Consult SF food safety website

HELPFUL LINKS

Food Safety Program Home
Restaurant Inspections

For more information on food safety scores

SF Health Network Laguna Honda

News & Media SFDPH Foundation Contact Us

San Francisco Department of Public Health

Search Frequently Asked Questions Where do I go for treatment?

About DPH Our Services Our Programs Healthy Living Records, Permits & Licensing Knowledge Sharing & Collaboration Diseases & Conditions Training

Environmental Health Air Quality Water Quality Noise Food and Agriculture Neighborhoods and Housing Environmental Hazards Business Regulation

Environmental Health

Food Safety Program: Restaurant Safety Scores

Find a Score

The Environmental Health Section maintains a publicly accessible database with the results of food facility inspections. To search the online inspection database, click [here](#). The information is updated weekly.

How the Restaurant Scoring System Works

In order to implement the food safety ordinance, the Health Department has developed an inspection report and inspection scoring system. After conducting an inspection of a food facility, the Health Inspector will calculate a score based on the violations observed, and interpretation of the score, see the table below. Violations can fall into three categories:

- High Risk: Violations that directly relate to the transmission of food borne illnesses, the adulteration of food products and the contamination of food-contact surfaces.
- Moderate Risk: Violations that are of a moderate risk to the public health and safety.
- Low Risk: Violations that are low risk or have no immediate risk to the public health and safety.

Food Safety Score Categories and Interpretation

Score	Operating Condition Category	Inspection Findings
85-100	Good	• Typically, only lower-risk health and safety violations observed
71-84	Adequate	• May have high-risk violations
51-70	Needs Improvement	• Several violations observed
1-50	Poor	• May have high-risk violations
0	Unsanitary	• Multiple violations observed

Food establishments that prepare and serve foods are required to post the inspection report in a clearly visible place to the general public and patrons of the establishment. The Department's policy is to post the inspection report in a clearly visible place to the general public and patrons of the establishment. The symbol is not issued to food establishments that receive three successive scores of ninety (90) percent or higher with no major violations as set forth in the food safety inspection report on the premises so as to be clearly visible to patrons of the establishment.

<https://www.sfdph.org/dph/EH/Food/Score/>

Need quality Health care? Join the SF Health Network

HELPFUL LINKS

Food Safety Program Home
Restaurant Inspections

San Francisco Department of Public Health

Search

Frequently Asked Questions

Where do I go for treatment?



Need quality
Health care?
Join the
SF Health
Network

[About DPH](#) [Our Services](#) [Our Programs](#) [Healthy Living](#) [Records, Permits & Licensing](#) [Knowledge Sharing & Collaboration](#) [Diseases & Conditions](#) [Training](#)[Environmental Health](#) [Air Quality](#) [Water Quality](#) [Noise](#) [Food and Agriculture](#) [Neighborhoods and Housing](#) [Environmental Hazards](#) [Business Regulation](#)

Environmental Health

Food Safety Program: Inspections

The Food Safety Program enforces health code regulations, which may result in administrative actions and suspension or revocation of the Permit to Operate when violations are identified. To enforce the health code regulations, Environmental Health Inspectors inspect over 7,000 locations in San Francisco including restaurants, bars, markets, bakeries, pushcarts, stadium food facilities and any other facility that serves food to the public.

The frequency and the scores for all the food establishments depend on its type as set by the health codes. Food establishments are divided into 3 categories:

Category 1 - Score is Required

Inspection score of 81% or above - Requires two (2) routine inspections per year
Inspection score of 80% or below - Requires three (3) routine inspections per year

Category 2 - Score is Required

One (1) routine inspection required per year

Category 3 - Does Not Require a Score

One (1) routine inspection required per year

Overview of Inspection Requirements

- All walls, floors and ceilings must be clean and in tact without large cracks or holes.
- All foods must be stored 6" off the floor to facilitate cleaning and sweeping of floors and to prevent vermin harborage.
- No vermin (rodents, insects or other pests) infestation upon the premises.
- All food storage must be arranged to prevent cross contamination. Foods are to be stored to prevent possible contamination from hazardous materials (i.e. bleaches, cleaning liquids, etc.)
- All equipment used in daily operations is to be in good running order. All storage areas and shelving must be clean.
- There shall be sufficient regular refuse collection to prevent garbage problems (overfilled receptacles causing garbage accumulation problems).
- All food service workers shall exhibit good personal hygiene and work habits (i.e. good health for the worker, cleanliness of outer garments, proper food handling, etc.)
- All establishments serving food shall have an employed Certified Food Handler to comply with AB1978 (Campbell Bill)
- All food facilities are to comply with the Labor Code Sec. 6404.5 which prohibits smoking in enclosed workplaces.

HELPFUL LINKS

-
- [Food Safety Program Home](#)
 - [Violation Types](#)
 - [Food Safety Class Registration \(pdf\)](#)
 - [Food Safety Practice Quiz \(pdf\)](#)

Environmental Health

Food Safety Program: Inspections

The Food Safety Program enforces health code regulations, which may result in administrative actions and suspension or revocation of the Permit to Operate when violations are identified. To enforce the health code regulations, Environmental Health Inspectors inspect over 7000 Locations San Francisco including restaurants, bars, markets, bakeries, pushcarts, stadium food facilities and any other facility that serves food to the public.

The frequency and the scores for all the food establishments depend on its type as set by the health codes. Food establishments are divided into 3 categories:

Category 1 - Score is Required

Inspection score of 81% or above - Requires 2 inspections per year

Inspection score of 80% or below - Requires 3 inspections per year

Category 2 - Score is Required

One (1) routine inspection required per year

One
inspection
per year

Category 3 - Does Not Require a Score

One (1) routine inspection required per year

Overview of Inspection Requirements

- All walls, floors and ceilings must be clean and in tact without large cracks or holes.
- All foods must be stored 6" off the floor to facilitate cleaning and sweeping of floors and to prevent vermin harborage.
- No vermin (rodents, insects or other pests) infestation upon the premises.

The Food Safety Program enforces health code regulations, which may result in administrative actions and suspension or revocation of the Permit to Operate when violations are identified. To enforce the health code regulations, Environmental Health Inspectors inspect over 7000 Locations San Francisco including restaurants, bars, markets, bakeries, pushcarts, stadium food facilities and any other facility that serves food to the public.

The frequency and the scores for all the food establishments depend on its type as set by the health codes. Food establishments are divided into 3 categories:

Category 1 - Score is Required

Inspection score of 81% or above -	Requires 2 inspections per year
Inspection score of 80% or below -	Requires 3 inspections per year

Category 2 - Score is Required

One (1) routine inspection required per year

Category 3 - Does Not Require a Score

One (1) routine inspection required per year

One
inspection
per year

Overview of Inspection Requirements

- All walls, floors and ceilings must be clean and in tact without large cracks or holes. Literally no holes in the wall ...
- All foods must be stored 6" off the floor to facilitate cleaning and sweeping of floors and to prevent vermin harborage.
- No vermin (rodents, insects, or pests) on upon the premises.
- All food storage must be arranged to prevent cross contamination. Foods are to be stored to prevent possible contamination from hazardous liquids, etc.)
- All equipment used in daily operations is to be in good running order. All storage areas and shelving must be clean.
- There shall be sufficient regular refuse collection to prevent garbage problems (overfilled receptacles causing garbage accumulation problems)
- All food service workers shall exhibit good personal hygiene and work habits (i.e. good health for the worker, cleanliness of outer garments)
- All establishments serving food shall have an employed Certified Food Handler to comply with AB1978 (Campbell Bill)
- All food facilities are to comply with the Labor Code Sec. 6404.5 which prohibits smoking in enclosed workplaces.

in administrative actions and suspension or revocation
code regulations, Environmental Health Inspectors
markets, bakeries, pushcarts, stadium food facilities and any

type as set by the health codes. Food establishments are

year
year

HELPFUL LINKS

[Food Safety Program Home](#)

[Violation Types](#)

[Food Safety Class Registration
\(pdf\)](#)

[Food Safety Practice Quiz \(pdf\)](#)

Environmental Health

Food Safety Program: Violation Types

After conducting an inspection of your facility, the Environmental Health Inspector will calculate a score based on the violations observed. Different violations reflect different levels of risk to the public's health and safety.

Major and minor violations are defined in the California Health and Safety Code (Part 7 - California Retail Food Code). Major violations pose an imminent public health danger and require immediate correction and/or closure of a facility.

The following list defines the major violations that can occur during an inspection.

001 Communicable disease

Employees with a communicable disease shall be excluded from the food facility/preparation of food. Gloves shall be worn if an employee has cuts, sores, or rashes. No employee shall commit any act that may contaminate or adulterate food, food-contact surface, or utensils.

002 Hand washing

Employees are required to wash their hands before beginning work; before handling food/equipment/utensils; as often as necessary, during food preparation, to remove soil and contamination; when switching from working with raw to ready-to-eat foods, after touching body parts; using the toilet; or any time when contamination may occur.

003 Improper hot/cold holding temperatures

Two or more food items cannot be stored in separate containers/compartments or pooled eggs held in temperatures between 60°F and 125°F, with exceptions.

004 Time as a public health control

Written procedures for restricting time of food at unsafe temperatures to four hours is required; time control programs must be adhered to by staff.

005 Improper cooling methods

All potentially hazardous food shall be RAPIDLY cooled from 135°F to 70°F, within 2 hours, and then from 70°F to 41°F within 4 hours. Cooling shall be by one or more of the following methods: in shallow containers; separating food into smaller portions; adding ice as an ingredient; using an ice bath, stirring frequently; using rapid cooling equipment; or using containers that facilitate heat transfer.

006 Improper cooking time/temperatures

Food must be cooked to temperatures required by the California Health and Safety Code. Commuted meat, or any food containing commuted meat, shall be heated to 155°F. Eggs and foods containing raw eggs, and single pieces of meat (including beef, veal, lamb, pork and approved game meat) shall be heated to 145°F. Poultry, commuted poultry, stuffed fish, and stuffed meat/poultry shall be heated to 165°F.

007 Reheating

Any potentially hazardous food cooked, cooled and reheated for hot holding or serving shall be heated to 165°F.

008 Food in poor condition; unsafe/adulterated

Any food is adulterated if it bears or contains any poisonous or deleterious substance that may render it impure or injurious to health.

009 Food contact surfaces not cleaned/sanitized

Food contact surfaces are to be cleaned and sanitized at an adequate frequency; a sanitizer is to be provided in the 3-compartment sink or final rinse of the dishwasher; and food contact surfaces must be washed, rinsed and sanitized before change in use.

010 Food obtained from an unapproved source

All food shall be obtained from an approved source.

011 Prohibited foods offered in licensed health care facilities/public and private schools

No raw or under-cooked food should be served at locations with highly susceptible populations. Examples of raw or under-cooked foods include unpasteurized juice, raw or under-cooked meat, etc.

012 No hot water/no water

Food preparation establishment shall have an adequate, protected, pressurized, potable supply of hot water (120°F) and cold water shall be provided at all times.

013 Sewage/Wastewater disposal inoperative

A food facility cannot operate if sewage backs up into the facility, if a grease trap over flows or clogs, or when there are no operable toilets. All liquid waste must drain to an approved fully functioning sewage disposal system.

014 Rodents/Roaches/Flies/Other Animals

Each food facility shall be kept free of vermin.

HELPFUL LINKS

[Food Safety Program Home](#)

[Find a Score](#)

[Symbol of Excellence](#)

[Food Safety Inspections](#)

[California Health and Safety Code](#)

[Food Safety During a Power Outage](#)

Environmental Health

Food Safety Program: Violation Types

After conducting an inspection of your facility, the Environmental Health Inspector will calculate a score based on the violations observed. Different violations reflect different levels of risk to the public's health and safety.

Major and minor violations are defined in the California Health and Safety Code (Part 7 - California Retail Food Code). Major violations pose an imminent public health danger and require immediate correction and/or closure of a facility.

The following list defines the major violations that can occur during an inspection.

001 Communicable disease

Employees with a communicable disease shall be excluded from the food facility/preparation of food. Gloves shall be worn if an employee has cuts, sores, or rashes. No employee shall commit any act that may contaminate or adulterate food, food-contact surface, or utensils.

002 Hand washing

Employees are required to wash their hands before beginning work; before handling food/equipment/utensils; as often as necessary, during food preparation, to remove soil and contamination; when switching from working with raw to ready-to-eat foods, after touching body parts; using the toilet; or any time when contamination may occur.

003 Improper hot/cold holding temperatures

Two or more food items cannot be stored in separate containers/compartments or pooled eggs held in temperatures between 60°F and 125°F, with exceptions.

004 Time as a public health control

Written procedures for restricting time of food at unsafe temperatures to four hours is required; time control programs must be adhered to by staff.

005 Improper cooling methods

All potentially hazardous food shall be RAPIDLY cooled from 135°F to 70°F, within 2 hours, and then from 70°F to 41°F within 4 hours. Cooling shall be by one or more of the following methods: in shallow containers; separating food into smaller portions; adding ice as an ingredient; using an ice bath, stirring frequently; using rapid cooling equipment; or using containers that facilitate heat transfer.

006 Improper cooking time/temperatures

Food must be cooked to temperatures required by the California Health and Safety Code. Communed meat, or any food containing communed meat, shall be heated to 155°F. Eggs and foods containing raw eggs, and single pieces of meat (including beef, veal, lamb, pork and approved game meat) shall be heated to 145°F. Poultry, communed poultry, stuffed fish, and stuffed meat/poultry shall be heated to 165°F.

007 Reheating

Any potentially hazardous food cooked, cooled and reheated for hot holding or serving shall be heated to 165°F.

HELPFUL LINKS

[Food Safety Program Home](#)

[Find a Score](#)

[Symbol of Excellence](#)

[Food Safety Inspections](#)

[California Health and Safety Code](#)

[Food Safety During a Power Outage](#)

contact surface, or utensils.

002 Hand washing

Employees are required to wash their hands before beginning work; before handling food/equipment/utensils; as often as necessary, during food preparation, to remove soil and contamination; when switching from working with raw to ready-to-eat foods, after touching body parts; using the toilet; or any time when contamination may occur.

003 Improper hot/cold holding temperatures

Two or more food items cannot be stored in separate containers/compartments or pooled eggs held in temperatures between 60°F and 125°F, with exceptions.

004 Time as a public health control

Written procedures for restricting time of food at unsafe temperatures to four hours is required; time control programs must be adhered to by staff.

005 Improper cooling methods

All potentially hazardous food shall be RAPIDLY cooled from 135°F to 70°F, within 2 hours, and then from 70°F to 41°F within 4 hours. Cooling shall be by one or more of the following methods: in shallow containers; separating food into smaller portions; adding ice as an ingredient; using an ice bath, stirring frequently; using rapid cooling equipment; or using containers that facilitate heat transfer.

006 Improper cooking time/temperatures

Food must be cooked to temperatures required by the California Health and Safety Code. Communited meat, or any food containing comminuted meat, shall be heated to 155°F. Eggs and foods containing raw eggs, and single pieces of meat (including beef, veal, lamb, pork and approved game meat) shall be heated to 145°F. Poultry, comminuted poultry, stuffed fish, and stuffed meat/poultry shall be heated to 165°F.

007 Reheating

Any potentially hazardous food cooked, cooled and reheated for hot holding or serving shall be heated to 165°F.

008 Food in poor condition; unsafe/adulterated

Any food is adulterated if it bears or contains any poisonous or deleterious substance that may render it impure or injurious to health.

009 Food contact surfaces not cleaned/sanitized

Food contact surfaces are to be cleaned and sanitized at an adequate frequency; a sanitizer is to be provided in the 3-compartment sink or final rinse of the dishwasher; and food contact surfaces must be washed, rinsed and sanitized before change in use.

010 Food obtained from an unapproved source

All food shall be obtained from an approved source.

011 Prohibited foods offered in licensed health care facilities/public and private schools

No raw or under-cooked food should be served at locations with highly susceptible populations. Examples of raw or under-cooked foods include unpasteurized juice, raw or under-cooked meat, etc.

012 No hot water/no water

Food preparation establishment shall have an adequate, protected, pressurized, potable supply of hot water (120°F) and cold water shall be provided at all times.

013 Sewage/Wastewater disposal inoperative

A food facility cannot operate if sewage backs up into the facility, if a grease trap over flows or clogs, or when there are no operable toilets. All liquid waste must drain to an approved fully functioning sewage disposal system.

014 Rodents/Roaches/Flies/Other Animals

Each food facility shall be kept free of vermin.

contact surface, or utensils.

002 Hand washing

Employees are required to wash their hands before beginning work; before handling food/equipment/utensils; as often as necessary, during food preparation, to remove soil and contamination; when switching from working with raw to ready-to-eat foods, after touching body parts; using the toilet; or any time when contamination may occur.

003 Improper hot/cold holding temperatures

Two or more food items cannot be stored in separate containers/compartments or pooled eggs held in temperatures between 60°F and 125°F, with exceptions.

004 Time as a public health control

Written procedures for restricting time of food at unsafe temperatures to four hours is required; time control programs must be adhered to by staff.

005 Improper cooling methods

All potentially hazardous food shall be RAPIDLY cooled from 135°F to 70°F, within 2 hours, and then from 70°F to 41°F within 4 hours. Cooling shall be by one or more of the following methods: in shallow containers; separating food into smaller portions; adding ice as an ingredient; using an ice bath, stirring frequently; using rapid cooling equipment; or using containers that facilitate heat transfer.

006 Improper cooking time/temperatures

Food must be cooked to temperatures required by the California Health and Safety Code. Communed meat, or any food containing communed meat, shall be heated to 155°F. Eggs and foods containing raw eggs, and single pieces of meat (including beef, veal, lamb, pork and approved game meat) shall be heated to 145°F. Poultry, communed poultry, stuffed fish, and stuffed meat/poultry shall be heated to 165°F.

007 Reheating

Any potentially hazardous food cooked, cooled and reheated for hot holding or serving shall be heated to 165°F.

008 Food in poor condition; unsafe/adulterated

Any food is adulterated if it bears or contains any poisonous or deleterious substance that m

009 Food contact surfaces not cleaned/sanitized

Food contact surfaces are to be cleaned and sanitized at an adequate frequency; a sanitiz and food contact surfaces must be washed, rinsed and sanitized before change in use.

010 Food obtained from an unapproved source

All food shall be obtained from an approved source.

011 Prohibited foods offered in licensed health care facilities/public and private schools

No raw or under-cooked food should be served at locations with highly susceptible populations. Examples of raw or under-cooked foods include unpasteurized juice, raw or under-cooked meat, etc.

012 No hot water/no water

Food preparation establishment shall have an adequate, protected, pressurized, potable supply of hot water (120°F) and cold water shall be provided at all times.

013 Sewage/Wastewater disposal inoperative

A food facility cannot operate if sewage backs up into the facility, if a grease trap over flows or clogs, or when there are no operable toilets. All liquid waste must drain to an approved fully functioning sewage disposal system.

014 Rodents/Roaches/Flies/Other Animals

Each food facility shall be kept free of vermin.

No information on how these relate to scores ...

Violation Types

Environmental Health Inspector will calculate a score based on the violations
risk to the public's health and safety.

Health and Safety Code (Part 7 - California Retail Food Code). Major violations
immediate correction and/or closure of a facility.

occur during an inspection.

be excluded from the food facility/preparation of food. Gloves shall be worn if
employee shall commit any act that may contaminate or adulterate food, food-

Dead Link

before beginning work; before handling food/equipment/utensils; as often as necessary, during food preparation, to remove soil
ing with raw to ready-to-eat foods, after touching body parts; using the toilet; or any time when contamination may occur.

parate containers/compartments or pooled eggs held in temperatures between 60°F and 125°F, with exceptions.

No information on how these
relate to scores ...

HELPFUL LINKS

[Food Safety Program Home](#)

[Find a Score](#)

[Symbol of Excellence](#)

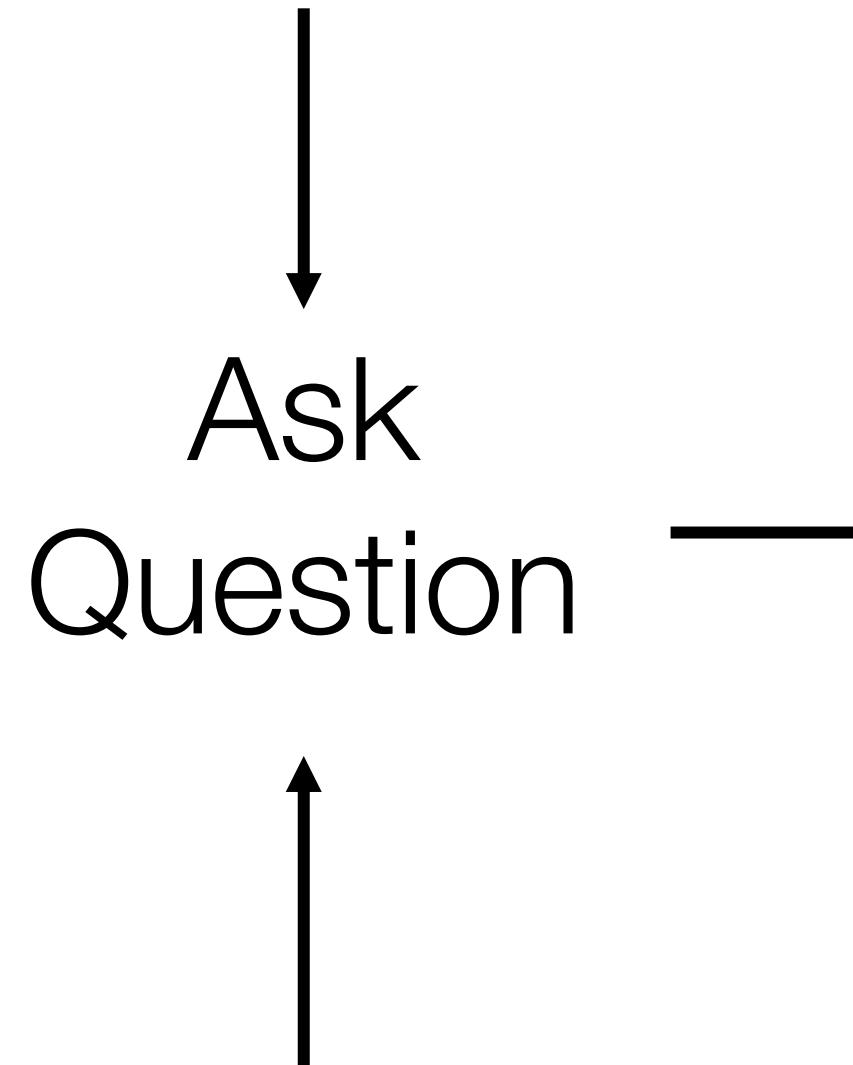
[Food Safety Inspections](#)

[California Health and Safety
Code](#)

[Food Safety During a Power
Outage](#)

Interested in Studying Food Safety in SF

- Discussed questions
- Read about the domain a bit ...
 - Probably should contact the city ...
- Now what?



Where can we get data about SF food scores?

Obtain
Data

➤ Check the SF Website?

The screenshot shows the San Francisco Department of Public Health website with a focus on the Environmental Health section. The main navigation bar includes links for About DPH, Our Services, Our Programs, Healthy Living, Records, Permits & Licensing, Knowledge Sharing & Collaboration, Diseases & Conditions, Training, and various environmental health topics like Air Quality, Water Quality, Noise, and Food and Agriculture. A search bar and a frequently asked questions section are also visible. The central content area is titled "Food Safety Program: Restaurant Safety Scores". It explains the purpose of the program, which is to maintain a publicly accessible database of food facility inspection results. It details the scoring system, which calculates a score based on violations observed. The page includes a table titled "Food Safety Score Categories and Interpretation" that maps scores to operating condition categories and inspection findings. The categories are: Score (90+, 85-90, 71-85, Less than or equal to 70), Operating Condition Category (Good, Adequate, Needs Improvement, Poor), and Inspection Findings (typically lower-risk health and safety violations observed, may have high-risk violations, several violations observed, multiple violations observed). The page also discusses the "Symbol of Excellence" and its requirements for food establishments.

<https://www.sfdph.org/dph/EH/Food/Score/>

Environmental Health

Food Safety Program: Restaurant Safety Scores

Find a Score

The Environmental Health Section maintains a publicly accessible database with the results of food facility inspections. To search the online inspection database, click [here](#). The information is updated weekly.

How the Restaurant Scoring System Works

In order to implement the food safety ordinance, the Health Department has developed an inspection report and inspection scoring system. After conducting an inspection of a food facility, the Health Inspector will calculate a score based on the violations observed and interpretation of the scores, see the table below. Violations can fall into three categories:

- **High Risk:** Violations that directly relate to the transmission of food borne illnesses, the adulteration of food products and the contamination of food.
- **Moderate Risk:** Violations that are of a moderate risk to the public health and safety.
- **Low Risk:** Violations that are low risk or have no immediate risk to the public health and safety.

Food Safety Score Categories and Interpretation

Score	Operating Condition Category	Inspection Findings
>90	Good	<ul style="list-style-type: none">• Typically, only lower-risk health and safety violations observed• May have high-risk violations
86-90	Adequate	<ul style="list-style-type: none">• Several violations observed



Environmental Health

City & County of San Francisco, Department of Public Health

Enter the business name or street address

If you are not sure of the name, in the blank space below type only few letters for a list of businesses whose name/street address contains those letters.

Search for: Yank Sing

Display 10

Find

Business name	Street Address	Symbol of Excellence
<u>YANK SING</u>	49 STEVENSON ST	No
<u>YANK SING RESTAURANT</u>	101 SPEAR ST A-16	No

1 - 2

Reset

Issues?

Click the business name to see if there were any violations and information regarding those.



YANK SING RESTAURANT

Inspection Findings

25-Jun-2015 **Inspection Type:** Reinspection/Followup **Score:** No Score required

Violation Type	Risk Category	Date Confirmed Corrected
-	-	-
-	-	-

19-Jun-2015 **Inspection Type:** Routine - Unscheduled **Score:** 82

Violation Type	Risk Category	Date Confirmed Corrected
Unreported or unrestricted ill employee with communicable disease	High Risk	19-JUN-15
Contaminated or adulterated food	High Risk	19-JUN-15
No thermometers or uncalibrated thermometers	Low Risk	19-JUN-15
Improper food storage	Low Risk	19-JUN-15

19-Jun-2015 **Inspection Type:** Reinspection/Followup **Score:** No Score required

Violation Type	Risk Category	Date Confirmed Corrected
-	-	-

14-Mar-2014 **Inspection Type:** Routine - Unscheduled **Score:** 98

Violation Type	Risk Category	Date Confirmed Corrected
Wiping cloths not clean or properly stored or inadequate sanitizer	Low Risk	16-JUN-15

Where can we get data about SF food scores?

Obtain
Data



- Check the SF Website?
 - Point queries for each restaurant...
 - Automate (Scrape)?
 - A lot of work
 - Search for a better solution ...
- Yelp LIVES Program!
 - Local Inspector Value-Entry Specification
 - <https://www.yelp.com/healthscores>
 - Consistent organization of the data
 - **Download a bunch of CSV files!!!!**

Obtain
Data

Clean and
Understand the data

Understand
Data

Jupyter Notebook

