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The Everyday Guide to Spirits and Cocktails: Tastes and Traditions

Course Guidebook

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Master of Wine Jennifer Simonetti-Bryan is among a small number of people to have received the highest credentials in the spirits and wine industry. She has a Professional Certificate in Spirits from the Wine & Spirit Education Trust and is a Certified Specialist of Spirits from the Society of Wine Educators.

Ms. Simonetti-Bryan has instructed for the Intermediate and Advanced courses for the Wine & Spirit Education Trust, has trained thousands of professionals in the wine and spirits industry, and has judged international spirits and wine competitions, including the Ultimate Beverage Challenge in 2010 and 2011.

Ms. Simonetti-Bryan is, in addition, one of only a few hundred people in the world and one of only 31 in the United States to have achieved the Master of Wine title (M.W.) from The Institute of Masters of Wine in London, England—the highest accolade and the most difficult title to achieve in the world of wine. In 2008, she was honored for her palate with the Wiesbaden Tasting Trophy from The Institute of Masters of Wine.

Before turning her attention to spirits and wine, Ms. Simonetti-Bryan had a career in corporate finance. While working as a Management Associate for Citicorp in London, she came across an exceptional glass of wine at a business lunch that sparked her passion and a career change. Her business expertise contributed to her success in becoming a Master of Wine and educating others about the spirits and wine business.

With her energetic, dynamic personality, Jennifer Simonetti-Bryan has also hosted seminars with famous Food Network stars such as Rachael Ray, Bobby Flay, Tyler Florence, Mario Batali, and Jacques Pépin.

Ms. Simonetti-Bryan is a frequent guest on national television programs, including NBC News's *TODAY*, Fox Business, Fox News, and Bloomberg TV—as well as on national radio and local news programs across the country. Additionally, she has been featured in *Fortune*; *O, The Oprah Magazine*; *Bloomberg Businessweek*; *Crain's New York Business*; *Reuters*; *Gotham*; *Wine Enthusiast Magazine*; and *Wine & Spirits Magazine* for her expertise. ■

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LECTURE GUIDES

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SUPPLEMENTAL MATERIAL

The Everyday Guide to Spirits and Cocktails: Tastes and Traditions

Scope:

This set of six lectures on spirits and two bonus lectures with useful information for the home bartender is designed to provide an overview of flavors and aromas and enhance your knowledge and confidence when you are ordering or serving spirits. The lectures are interactive, with multiple tastings, demonstrations, and cocktail recipes, and offer the perfect opportunity for a gathering of friends to learn together. Even those who don't drink alcohol can still participate by comparing the appearance and aromas of spirits.

In the first lecture, you learn the four S's of tasting spirits: see, sniff, sip, and savor. You will use these four S's to compare and contrast spirits throughout the course. You will also cover the basics of distillation and learn how this process is applied to the production of vodka and gin. In Lecture 2, we look at whiskies, including scotch, rye, bourbon, and others. As we'll see, whiskey has many layers of flavors and complexities, and cultural, geographic, and commercial factors can all affect the flavor of whiskey. In Lecture 3, we turn to one of the most universally popular spirits: rum. Rums come in a wide range of colors and flavor profiles, from white to pale gold to tawny brown and from delicate and grassy to intense and spicy. Because rum has such a range of styles, it's excellent for mixing in cocktails or sipping.

In Lecture 4, we meet the "bad boys" of spirits, tequila and mezcal. Popular with college students, tequila also offers some aged varieties that rank in complexity and sophistication with some high-quality rums, whiskies, and brandies. The process of making tequila gives us a glimpse into the history and culture of Mexico, and this lecture also settles the question of the "worm" once and for all.

Brandy is often associated with luxury and wealth, but it isn't true that you have to be rich to enjoy brandy. Lecture 5 discusses the process for making cognacs and brandies, which at least partially explains why these

spirits can be so expensive, and decipher the aging system used to grade them. You'll learn how to appreciate brandies straight and how to blend them successfully in cocktails. Finally, Lecture 6 turns to liqueurs, which have the widest range of flavors of all the spirits this course will explore. They're typically flavored with fruit, herbs, spices, nuts, and cream, but in theory, you could add any flavoring plus sugar to any spirit and produce a liqueur. You will learn the methods of flavor extraction used in making liqueurs and make an in-depth comparison of three types of orange liqueur.

The two bonus lectures that follow our discussions of each category of spirits contain a wealth of miscellaneous tips for setting up and stocking a home bar, experimenting with food and cocktail pairings, making flavored vodkas and seasonal cocktails, and more. Also included in this guidebook is a tastings list for each lecture and a recipe section so that you can mix the cocktails shown in the lectures at home. Get started on this exploration of the world of spirits by inviting some friends over to contribute a bottle or two and raising a glass to your health and enjoyment! ■

Vodka and Gin—The Cocktail Spirits

Lecture 1

DRINKS FOR THIS LECTURE:

- Russian Standard vodka (wheat- or grain-based)
- Chopin (or potato-based vodka)
- Beefeater (or other London dry gin)

This series is an introduction to the world of spirits—vodka, gin, whiskey, rum, tequila, liqueurs, and cognac. You will learn about these common spirits and find out what makes them uncommon. Throughout these lectures, we'll have tastings with spirits, and if possible, you should try to sample some of them on your own. You'll gain an understanding of how spirits are made and how to appreciate them, both straight up or in a cocktail. The purpose of this course isn't to make you a distiller or bartender but to offer you an overview of flavors and aromas, pass on some fun facts and insider tips, and help you gain confidence when you are serving or ordering spirits.

The World of Spirits

- The connoisseurship of spirits offers enjoyment, as well as the opportunity to learn about history, culture, and science.

- Vodka, for example, was the drink of Peter the Great and the Russian czars going back to the 1400s.

- The author of *The Great Gatsby*, F. Scott Fitzgerald, was a fan of gin. The Martini, the classic cocktail made with gin, is often counted among the most civilized drinks in the world.

- Whiskies include rye, bourbon, scotch, and single malt. The layers of flavor in whiskies can unfold and delight for hours.

- Rum, which comes in light and dark varieties, was favored by Ernest Hemingway.

- The ancient Aztecs believed that the gods brought them the agave plant, from which tequila is made.

- Van Gogh and Oscar Wilde were known fans of the liqueur absinthe, which was considered an inspiring—if addictive—muse for Parisian artists in the late 19th and early 20th centuries.

- Cognac is one of the most prestigious spirits in the world. Each cognac house has a master taster who samples thousands of brandies each year before approving them for blending in the house cognac.

The Origins of Wine, Beer, and Spirits

- The origin of wine seems to have been a happy accident: Supposedly, a goat herder noticed that his flocks got friskier after eating rotting grapes, but the grapes weren't really rotting—they were fermenting!

- Beer is another ancient alcoholic beverage, but it involves more steps than making wine, such as malting and mashing.

- Spirits came along in the 8th century. An Arabic scientist named Jabir ibn Hayyan (later called Geber), experimented with distilling wine and condensing the vapor in a "serpent" coil immersed in water.

Beer is an ancient alcoholic beverage, possibly dating back to the Neolithic age.

Introduction to Vodka

- The word "vodka" comes from the Slavic word *voda* for "water." According to the Gin and Vodka Association, the first documented production of vodka was in Russia in the late 9th century, although Poland lays claim to having distilled vodka in the 8th century.

Tasting Spirits: The Four S's

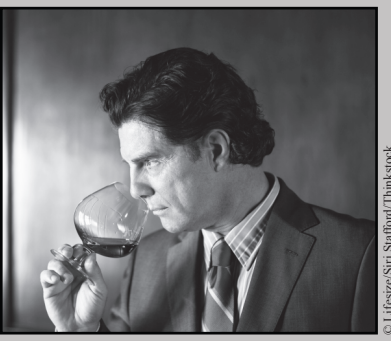
The four S's of tasting spirits are: see, sniff, sip, and savor.

SEE: Looking first at a spirit's color can give an idea of what it will taste like. If it's a brown spirit, the flavor and aromas will likely include spice, vanilla, caramel, or toffee.

SNIFF: Don't inhale deeply, or you will anesthetize your nose. Instead, open your mouth and inhale through both your mouth and nose.

SIP: The first sip of spirits will be a shock to your palate because of the intensity of the alcohol. Take a sip to get your palate calibrated and wait about 30 seconds or a minute.

SAVOR: Savoring is divided into three phases: (1) the **attack** (the first few seconds after you take a sip, when the most volatile components reach your receptors), (2) the mid-palate phase, when a different set of flavors kicks in, and (3) the **finish**, during which yet another set of flavors lingers on your palate.



The term **complexity** refers to the number of different flavors you get with a spirit. The higher the quality of the spirit, the longer the flavors last on your palate. This is called a spirit's **length**.

- Vodka can be made from any fermentable agricultural product, including grain and potatoes, as well as maize, grapes, sugar beets, and onions.

- To make vodka, the base material is ground, mixed with water into a mash, and cooked under pressure. Then enzymes are added to help liquefy the mash and to release the fermentable sugar.

- Yeast is then added to produce a sort of low wine (called a **wash**), which is about 6–10 percent alcohol by volume (abv).

- Some of the flavor and structure of the base material usually comes through in the finished product.

Introduction to Distillation

- Distillation works on the principle that alcohol has a lower boiling point than water.

- During distillation, the wash is heated, releasing compounds called **congeners** (responsible for aroma and flavors) and alcohol molecules. The more volatile, or lighter, compounds vaporize at lower temperatures; the heavier ones vaporize at higher temperatures.

- Distillation is done in vessels called stills. Broadly speaking, there are two categories of stills: **pot stills** and **column stills**. Pot stills provide spirits with more character and flavor, while column stills are noted for speed of distillation and neutrality.

- Pot stills are so called because the wash is boiled in a pot over a heat source. Once the wash boils, the alcohol and flavor vapors are released, get captured, and travel through a coil immersed in water. The captured vapors then condense back into liquid.

- The pot still is a **batch system**. The liquid must be sent through the system multiple times (in "batches") to reach the desired alcoholic strength.

- Column stills involve two tall, linked columns, both with plates or trays. The wash travels down through the first column (the analyzer) in a copper coil, and as it does, it is heated by steam vapor rising up and surrounding that coil. By the time it reaches the second column (the rectifier), the alcohol in the wash has started to boil.

- As the wash is pouring down the second column, the alcohol and flavor molecules are rising and concentrating. The condensing alcohol keeps circulating in the rectifier until it gains the desired strength.

The Heads, the Tails, and the Heart

- The first molecules to distill in the process of making spirits are the most active and volatile, and some of them are actually harmful to consume. The distiller doesn't include this first fraction of vapor, which is referred to as the **heads**.

- The last fraction of molecules to vaporize is known as the **tails**. These are usually heavier compounds that take longer to vaporize, but the tails also include some toxic compounds.

- The distiller needs to do away with the heads and tails and try to get at the **heart**, that middle fraction that contains alcohol and is loaded with wonderful flavor compounds.

Introduction to Gin

- Gin is a neutral spirit flavored with botanicals, and by European Union law, it must taste predominantly of juniper.

- In distilled gin, the neutral spirit that results from the process used for making vodka is redistilled with botanicals. Compounded gin is made by adding more botanical essences.

- In addition to juniper, some of the other botanicals that might be used in gin include coriander seed, angelica root, orris root, dried citrus peels, and spices.

- Other elements that affect the flavor of gin include how it is distilled and how long the botanicals are **macerated**.

Important Terms

attack: The first phase of savoring; the first few seconds after a spirit is sipped, when the most volatile compounds reach the taste receptors.

batch system: The system of distillation used in pot stills, in which the liquid is sent through the still multiple times to reach the desired alcoholic strength.

column still: A still that has two chambers, one with a preheater and condenser and the other with a heating chamber and column separated by perforated plates.

complexity: Refers to the number of different flavors or layers of flavors that are tasted in a spirit.

congeners: Organic compounds, such as ketones, esters, and aldehydes, that occur as a byproduct of fermentation and provide flavor and aroma to spirits.

finish: The last phase of savoring, during which a final set of flavors lingers on the palate.

heads: The first fraction of molecules to vaporize in the distillation process; these are the most volatile compounds, some of which are toxic.

heart: The middle fraction of vaporizing molecules in the distillation process; this portion contains alcohol and flavor compounds.

length: Refers to the amount of time the flavors of a spirit linger on the palate.

macerate: The process of soaking something in liquid until it softens. In making gin, some producers macerate botanicals in the spirit before distillation.

pot still: A type of still that has a preheater (a pot) for boiling liquids.

tails: The last fraction of molecules to vaporize in the distillation process; usually heavier compounds, some of which are toxic.

wash: Any alcoholic liquid resulting from fermentation that is destined for distillation.

Vodka and Gin—The Cocktail Spirits

Lecture 1—Transcript

See these glasses? Each one contains some of the finest spirits in the world. Whether you like to drink vodka, the most popular spirit in America, or cognac, one of the most luxurious spirits in the world—the range of spirits has no limits. lavors, tastes, and stories are limitless.

Introduction

Hi, I'm Jennifer Simonetti-Bryan, and I've trained thousands of professionals in the spirits and wine industry and judged numerous international spirits competitions. I've put together six jam-packed lectures about all these spirits to pass my experience and tips along to you.

In the next six lectures, I'll teach you about the most common spirits and what makes them uncommon. I'll teach you how they're made and how to appreciate them straight up or in a cocktail. I'll show you how to tell the good from the bad—and the best from the good.

Throughout these lectures, we'll have demonstrations and tastings with spirits. You'll still get a lot out of the lectures even if you don't have any of the spirits in front of you, but if you're able to taste along with me, that's all the better. I recommend getting one, a few, or if possible, all of the spirits we'll cover in each lecture. You'll learn more if you're tasting with me because you are going to be interacting with the information in an entirely different way.

There's a list in your guidebook of what we taste in each lecture, as well as recipes for the classic and trendsetting cocktails we'll make. I'll also let you know at the end of each lecture what you'll need for the next one.

You may want to invite some of your friends to watch a lecture with you, and ask them to bring along a bottle to keep costs down. Unlike wine, many spirits come in very small bottles, just like the ones you get on airplanes, and that can be easier on your budget.

Another option is to listen to each lecture and then go to a restaurant or bar with a friend to compare and contrast tastes there. Every bar has at least one of each category of these spirits.

The purpose of this course isn't to make you a distiller or bartender. What I want to give you is a great overview of the flavors and tastes, an understanding of why certain spirits taste the way they do, and some fun facts and insider tips.

Vodka was the drink of Peter the Great and the Russian czars going back to the 1400s. In our own time, there was a vodka called Diva that sold at auction for more than $1 million. When the vodka was poured, it was actually filtered through precious gems.

Gin was a favorite of the author of *The Great Gatsby*, F. Scott Fitzgerald. Its most classic cocktail, the Martini, is often counted among the most civilized drinks in the world. By the way, did you know that a shaken Martini is weaker than a stirred one? Think about it.

Whiskies include rye, Irish whiskey, bourbon, and single malt scotch. The layers of flavor in whiskies can unfold and delight for hours. And some are sold at only the highest-priced auctions.

Rum, which comes in light and dark varieties, was favored by Ernest Hemingway, who would sip Mojitos in the tropics. In the 1600s, rum was the most popular drink in America. In those days, the quicker the turnaround between distilling and drinking, the better, but these days, aged rums are prized.

Tequila and mezcal come to us from Mexico. The ancient Aztecs believed that the gods brought them the agave plant, which was then turned into pulque, a sweet, milky fruity drink that was used mainly by the priestly class. In the 1500s, the Spanish conquistadors took pulque and used it to make mexcal—North America's first distilled beverage.

Do you think tequila's a cheap spirit? Years ago, a one-liter bottle of a limited-edition premium tequila sold for $225,000, which at the time was

the most expensive bottle of spirit ever sold. Bet you're not thinking it's so cheap now?

Liqueurs and cordials offer colors and flavors for cocktails. Van Gogh and Oscar Wilde for example, were known fans of the liqueur absinthe, which was considered an inspiring—if addictive—muse, especially by Parisian artists in the late 19th and early 20th centuries.

Brandies are produced by distilled wines. Cognac houses have a master taster who samples thousands of brandies each year before approving them for blending in their house cognac. Wouldn't you like that job? I know I would.

Spirits for Today's Lecture
If you're tasting along with me today, you will need the following spirits:

- Russian Standard vodka (wheat- or grain-based vodka)
- Chopin (or potato-based vodka)
- Beefeater (or other London dry gin)

At the end of this lecture, we will make some cocktails with Erik Holzherr, a mixologist at Wisdom. We'll create two cocktails—a Bloody Mary and the classic Martini.

The History of Spirits
Let's take a look at wine versus beer versus spirits. The origin of wine seems to have been a happy accident. The story goes that a goat herder noticed his flocks being a little friskier than usual after they had been eating some of what he thought were rotting grapes on nearby vines. Grapes have their own sugar and their own yeast on the skins, so those weren't actually rotted grapes but they were fermented grapes … and presto! You have wine.

Beer is another ancient alcoholic beverage (possibly dating back to the early Neolithic age, or 9500 B.C.), but it involves more labor and more steps than making wine, such as malting and mashing before fermenting.

Spirits came along much later than wine or beer. In the 8th century, an Arabic scientist named Jabir ibn Hayyan—he was later called Geber—experimented with distilling wine and condensing the vapor in a "serpent" coil immersed in water. Eureka! The birth of spirits. It was probably meant to be medicinal, and if you ask me, it definitely has some healing powers!

The Four S's of Tasting Spirits

How many times have you seen a cowboy in a movie saunter up to a bar and say, "Give me a shot of whiskey"? A million times, right? But do you know how much that cowboy is actually drinking?

Technically, a shot in the United States is about 1.5 ounces of alcohol (or 44 milliliters) and comes in a glass such as this one, a shotglass. When you hear someone say, "Give me a double," it means 2 shots, or 3 ounces (or 88 milliliters).

The bartender pours and the cowboy kicks it back. We won't be doing any of that in this course. Why? First, we'll be drinking better stuff than the cowboys used to, so you would totally miss out on an incredible taste experience, and second, the purpose of this course is to appreciate and taste, not just kick it back and get drunk. Even with sipping, I want you to make it to the end of the lecture.

How can you get the most out of drinking spirits? We do this with what I call the four S's of tasting spirits: see, sniff, sip, and savor. With wine, we have an additional S called swirl. Wine is swirled to release more aromas into the glass for your nose to pick up. With spirits, the aromas are volatile enough; if you swirl, you're releasing more volatile alcohol aromas, which will reach your nose first before any flavors. And instead you'll just feel the alcohol burn in your nostrils and it may cover up some of the flavors.

With spirits, then, we omit the swirling and begin with seeing—taking note of the color. Looking at a spirit's color can give us an idea of what the spirit will taste like. For example, if it's a brown spirit, I'm likely to expect flavors that are associated with barrel aging, which is where the color comes from. These flavors and aromas include spice, vanilla, caramel, or toffee. If the spirit is white, I would expect to smell some of the base material or other

flavorings but not oak, because a clear white spirit wouldn't immediately indicate to me that it was oak aged.

Next, we move on to sniffing. With wine you sniff deeply, but wine is only about 13 percent alcohol by volume (abv). Spirits are generally 40 percent or more abv. If you inhale deeply, you're going to anesthetize your nose, preventing you from smelling anything else. Trust me, I did it the first time I tasted spirits, and I got an instant headache.

When you're sniffing spirits you want to keep your mouth open and inhale both through your mouth and your nose while sniffing spirits. If I tilt the glass and inhale, I get many more aromas. Keeping your mouth open reduces the alcohol burn that can cover up some flavors.

Note that the spirits I have here are "neat," which means straight up. This means that nothing else has been added to it; it's just plain spirit. That's it.

Whiskey connoisseurs sometimes add a drop or two of water to the glass. The additional water mutes some of that alcohol and allows more of the flavors to come through. You might try this whenever you're testing a new spirit.

This also explains why some people drink spirits "on the rocks." Not only does the water from the melting ice dilute some of the alcohol burn, but the ice also chills the spirit, which can make the experience smoother and more palatable.

Your first sip of spirits will be a shock to your system because of the intensity of the alcohol—about 40 percent. It's usually a good idea to take a sip to get your palate calibrated and wait about 30 seconds or a minute. After that, it's not a shock. I usually take less than a teaspoon of spirit into my mouth. I roll it around for a few seconds and then swallow.

Whether you're sipping along with me or not, you can get a sense of the spirit if you put a drop of spirit in your hands, rub them together, and smell them. I know this sounds odd, but the friction forces the alcohol to evaporate, and

you are left with the aromas. This can help you identify subtle characteristics behind the spirit.

Finally, we get to savoring. I think of savoring as separated into three time periods. After you take your first sip, the first few initial seconds when you take a sip is called the "attack." You will smell one set of components here; it's usually the most volatile components that get to your receptors.

A few seconds after the attack, you notice a different set of flavors. This is called the "mid-palate"—that's when they start to kick in. Then you have the "finish." The finish reveals another set of flavors, those that linger on your palate for about 10–20 seconds, or more.

The term "complexity" refers to the number of different flavors you get with a spirit. The more layers of flavors, the more complex it is.How long this experience lasts depends on the spirit itself. The higher the quality of the spirit, the longer the flavors last on your palate. This is called a spirit's "length."

Introduction to Vodka and Gin

We're starting our lectures with vodka and gin. Why them? Everyone knows vodka. Many sources rate it as the number-one spirit in the United States. It's fairly neutral—definitely in comparison to some other categories—so it's an easy way to start. Vodka is also the base for a variety of different types of spirits, such as bitters, liqueurs, and gin.

Just for fun, pick up the vodka and gin. See any differences between them? Nothing in color right? Now smell them side by side—first the vodka, then the gin. Wow, huge difference, right? Though they both look the same, there is a significant difference between them in aromas and in flavors.

Gin is super powerful in flavor and shows the impact of what flavoring neutral spirits can do.

Both are clear spirits, what we consider white spirits. This makes them very "mixable" and usable for cocktails. They're also great for making some cocktails lower in calories which you can check out in our bonus lectures.

Vodka

The word "vodka" comes from the Slavic word *voda* for "water." Throughout these lectures, you will hear many references to water, water of life, aqua vitae, and so on when it comes to spirits. It's easy to see why. Some spirits look like water.

Russia and Poland both argue over who made the first vodka. According to the Gin and Vodka Association, the first documented production of vodka was in Russia in the late 9th century. The first known vodka distillery was documented almost 200 years later in Russia. But Poland lays claim to having distilled vodka even earlier, in the 8th century. Other sources put the date closer to the 12th century.

Vodka, by definition, is a neutral spirit. In fact the European Union regulations state that vodka should be distilled and filtered so that the organoleptic characteristics of the base material are selectively reduced. In other words, so it's clear and neutral.

What is meant by the term "base material"? Vodka can be made from any fermentable agricultural product. Some of the more premium vodkas are made from grains, such as barley, rye, and wheat; then you have some made with potatoes. You can make vodka with maize or molasses, but these can be a little sweet. Vodka producers can use grapes such as Cîroc, a French vodka; sugar beets; or onions—they're all allowed by EU.

You may have heard that Polish vodkas are all made with potatoes while Russian vodkas are made with other materials. That's only partially true. While there are indeed Polish vodkas that are made with potatoes, such as Chopin; Poland also produces high-end rye-based vodkas, such as Belvedere vodka. Absolut, which is Sweden's best known brand, is made from winter wheat, while Finlandia vodka from Finland is from barley.

If the producer is using a base such as grain or potatoes, it needs to be converted into a fermentable sugar that yeast can then convert into alcohol and a little carbon dioxide.

Have you ever made mashed potatoes? When you boil the potato, you change it into a form we can consume. In the same way, yeast can't get at the fermentable sugar in the grain or potatoes unless it's converted.

The base material, grain or potatoes, is ground, mixed with water into a mash, and cooked under pressure. Then enzymes are added to this cooked mash to help liquefy it and to release the fermentable sugar.

Yeast is then added and produces a sort of low wine (called a "wash"), which is anywhere from 6–10 percent abv.

But if the purpose of vodka is to be neutral, why are we caring about the base material? Well, some of the flavor does come through but also the structure also comes through from the base material. Let's take a look at the difference.

Here we have two vodkas, one made by Russian Standard, which is wheat vodka, and Chopin, which is actually made from potatoes. Let's do our four S's. Take the Russian Standard. With the Russian Standard you can taste some of the cereal flavor. Now the potato. I think you're goin gto find that the one made with potatoes has a creamier texture and is rounder on the palate. They taste quite different. Also you'll note that the Russian Standard is a bit lighter in structure, yet both of them are smooth. People have very different preferences for their vodkas, and you may want to try a variety to see what you like best for certain occasions and in different cocktails.

Introduction to Distillation

We've gone through the conversion and fermentation process, but we don't yet have a spirit. We now need to go through distillation.

Distillation works on the principle that alcohol has a lower boiling point than water. If you boil wine or beer or other wash with alcohol in it, the alcohol boils first at about 173°F or 78.3°C. The water then boils at about 100°C or 212°F.

In wine, beer, and any other alcoholic beverages, there are compounds called "congeners." These compounds are responsible for the aroma and flavors. During distillation, they turn into vapor along with the alcohol molecules.

The more volatile, or lighter, compounds vaporize earlier, at lower temperatures; the heavier ones vaporize at higher temperatures.

How Distillation Works

Distillation is done in vessels called "stills." Broadly speaking, there are two categories of stills: pot stills and column stills. We're going to be talking about stills in each lecture, because the type of still has a significant impact on flavor.

Pot stills provide spirits witha bit more character and flavor, while column stills are noted for speed of distillation and their neutrality.

Pot stills are so called because the wash (remember, that's the term that refers to the result of fermentation) is boiled in a pot over a heat source. The wash boils in the pot; the alcohol and flavor vapors are released first, get captured, and go through a coil that is immersed in water. The captured vapors then condense back into liquid.

The pot still is a batch system. Let's say you put in a wash at about eight percent abv. This first batch's pass through, the pot still creates a liquid with an alcoholic strength of 23 percent. It now has to be sent back through the system a few more times to get up to the alcoholic strength for spirits (58 to 80 percent abv).

While you do see pot distillation with some vodkas (such as Ketel One vodka), you will hear more about pot stills when we talk about whiskey and cognac in later lectures.

Column stills are sometimes called "continuous stills." They were invented later than pot stills to make distillation faster, less labor intensive, and more neutral. Instead of passing through the still a few times in batches (as it does in the pot still), the wash goes through a column still only once—but the spirit comes out at about 90 to 95 percent abv. See how efficient that is! This is why many vodkas and the base material for gin go through column stills.

Column stills are so called because they involve two tall, linked columns, both with plates or trays. Unlike with pot stills, the cold wash is not heated in a pot by a fire underneath but by heated vapor.

The wash goes down through the first column, called the analyzer, in a copper coil, and as it does, it is heated by steam vapor rising up and surrounding that coil. By the time it reaches the second column, called the rectifier, the wash is at a temperature where the alcohol has started to boil but not the water.

As the wash is pouring down the second column, the alcohol and flavor molecules are rising and concentrating. The condensing alcohol keeps circulating in the rectifier until it gains the desired strength.

The column still has different perforated plates through which the vapors flow. The master distiller knows exactly where among these plates are for the appropriate "cut" or range of alcohols to take and collect.

The first molecules to distill are the most active and volatile (that's why they're first). Unfortunately, some of them are actually harmful to us (such as methanol), so the distiller doesn't include this first fraction of vapor, we refer to this as the "heads."

The last fraction of molecules to vaporize is known as the "tails." These are usually heavier compounds that take longer to vaporize, but the tails also include some compounds that are toxic to us.

The distiller needs to do away with the heads and the tails and try to get at the "heart," that middle fraction that contains alcohol that's not toxic to us and is loaded with all those wonderful flavor compounds.

Where the master distiller makes this cut has an impact on flavor. Those spirits with a heart range earlier on may a have more high-toned, aromatic characteristics, while cuts made lower will have more weight to them.

Next, the vodka is filtered through charcoal to soften it, take away some impurities, as well as eliminate color. After this, water is added to bring

the spirit to bottling strength (about 40 percent abv), and there you have it. Vodka!

Flavored Vodkas

Flavored vodkas are created by macerating the flavoring agent in the vodka at room temperature, blending in natural extracts, or leaching (for example, passing the vodka through a flavoring agent, such as bison grass). Some producers redistill with the flavoring agents. The cheapest method, though, is just to add artificial flavorings.

Drinking socially can encourage people in a group to share their unique impressions of various spirits.

You don't have to buy flavored vodka. You can do what is called "infusing" it yourself. It's a simple process, and in our bonus lectures, I'll show you how. You can make savory or sweet vodkas. Here, I have raspberry vodka—great in cocktails—and when you strain out the fruit, you can use that over ice cream. This is a chili pepper vodka, good with a Bloody Mary. Some folks like vanilla vodka, which is great with sweet drinks.

That brings me to one of the differences between vodka and gin. Even though these two spirits are both great mixed with tonic water, vodka's easier to mix with more flavors. Why is that? Let's take a look at how gin is made for the answer.

Gin

Gin is a neutral spirit flavored with botanicals. By EU law, it must taste predominantly of juniper. Juniper is a plant that is part of the cypress family, and its berries are very pungent. They were often used in medicines.

In Holland in 1572, Dr. Franciscus Sylvius found that juniper berries covered up the harshness of alcohol and made the medicines he made more palatable. His was the first recorded eau-de-vie from juniper, and he called it *genièvre*.

About a century later, when William of Orange ascended the British throne, he encouraged distillation because it helped with local grain surpluses. Also, he had declared war on France at the time, and all imports, including spirits, were banned. So there was a good deal of incentive to make your own. British producers of geneva (now called gin) saw an explosion of popularity because it was patriotic and it was cheap.

By 1803, nine producers (who were called the Gin Barons) owned 90 percent of London's distilling capacity. They included some names you may recognize today like Booth, Burnett, Gordon, and Tanqueray.

Production of Gin

Gin can be made in two ways. First, there is distilled gin, in which the neutral spirit from the process we talked about with making vodka is redistilled with botanicals. Then, there is compounded gin, which is made by adding more botanical essences.

Juniper legally has to be present in gin, and a good gin should smell at least some subtle notes of juniper. Some of the other botanicals you might see include:

- coriander seed, which gives a peppery aroma
- angelica root, which gives an earthy/woodsy kind of flavor
- orris root, which smells of violets
- dried citrus peels for fruity flavors
- and many other spices, such as cinnamon, licorice, cardamom, and so on.

The formula of botanicals for each producer is a heavily guarded secret and has a major impact on the flavor. Other elements that affect flavor include how the gin is distilled and how long the botanicals are macerated—that just means soaking in liquid until they soften.

Beefeater macerates botanicals in the spirit 24 hours before distillation, while Tanqueray adds botanicals to the still and then distills immediately.

Bombay Sapphire and Hendricks use stills that have botanicals suspended in a basket on the neck of the still.

The original gins were very juniper heavy and sweetened, likely to make them more drinkable. This became known as the Old Tom style.

London dry gin, on the other hand, has more flavors provided by the citrus peels, spices, and other things. They don't have any added sweeteners or coloring agents. Only water is permitted to bring it down to bottling strength.

Before we make our cocktails, let's try the four S's with Beefeater gin, a London dry gin. By the way, Beefeater is the only London gin still made in the city itself, and only six people know its secret formula for combining juniper and botanicals.

Start with see: It looks very clear, kind of looks like water.

Now we sniff: You can smell the juniper. It's very pungent; it almost reminds me of an eucalyptus aroma but you get some other notes in there as well. You get some dried citrus peel and floral notes as well.

Now sip and savor: You are going to notice how long the flavor is on your palate. You're going to roll it around your tongue so you kind of feel the weight and the structure. Notice how those botanicals persist on the palatte—very different from drinking vodka.

Cocktails

Let's turn to mixologist Eric Holzherr from Wisdom so we can see how to make three classic vodka and gin drinks: the Bloody Mary, the Martini, and a variation on the Martini called the Wisdom Martini.

Recipes

Bloody Mary
Mixologist: Erik Holzherr, Wisdom

For this recipe, you'll need:

- 2 oz vodka
- 4 oz tomato juice
- ¼ oz lemon juice or juice ½ lemon
- 4 dashes Tabasco or 3 heavy dashes pepper sauce
- 2 dashes Worcestershire sauce
- 2 pinches salt and 3 pinches pepper
- celery stalk for garnish

Combine all ingredients in a tall glass filled with ice. Garnish with the celery stalk.

Martini
Mixologist: Erik Holzherr, Wisdom

For this recipe, you'll need:

- 2 ½ oz gin (Bluecoat American Gin recommended)
- 1 oz dry vermouth (good quality)
- Lemon peel or olive for garnish

Pour all ingredients into a mixing glass with ice cubes. Shake well. Strain or double strain into a chilled Martini glass. Squeeze oil from a lemon peel onto the drink, or garnish with an olive.

Wisdom Apple Martini
Mixologist: Erik Holzherr, Wisdom

For this recipe, you'll need:

- 1 ½ oz Zubrowka Bison Grass Polish Vodka (not a particular brand but a style)—may substitute with straight vodka, but it will change the flavor
- ½ oz Apfel Schnapps/apple liqueur
- ¼ oz dry vermouth
- 1 oz pressed fresh apple juice

Pour all ingredients into a mixing glass with ice cubes. Shake well. Strain into a chilled Martini cocktail glass.

Next Up
Those Martinis were fantastic weren't they? They not only looked perfect but they tasted perfect. Which brings us to the question, what is a perfect cocktail? You may remember hearing James Bond in the films saying that he wanted his Martini "shaken, not stirred." Why? What's the difference between shaken and stirred Martinis?

Scientists in Canada actually studied the shaken versus stirred methods and measured the amount of antioxidants between the two. They found that there were indeed more antioxidants with the shaken. If you prefer your Martinis shaken, perhaps that means you want more antioxidants, more flavor, or just that you're a big James Bond fan.

In the next lecture, we are going to be talking about the wonderful world of whiskey. For this lecture, you may want to have handy (or invite some friends to bring them) the following:

- single-malt scotch (peated)
- unpeated scotch or Irish whiskey
- bourbon
- rye whiskey

Until then, cheers!

Whiskey—The Complex Spirit

Lecture 2

DRINKS FOR THIS LECTURE:

- single-malt scotch (peated)
- unpeated scotch or Irish whiskey
- bourbon
- rye whiskey
- Macallan Sherry Oak
- Macallan Fine Oak scotch

Like wine, whiskey has many layers of flavors and complexities, and as we'll see, cultural, geographic, and commercial factors can all affect the flavor of whiskey. In this lecture, we'll look at what's involved in the process of making whiskey; define some of the terms you might see on whiskey labels; and explore the differences in whiskey from Scotland, Ireland, and North America. You may want to invite a few friends over to share the costs of sampling various whiskies; for those who don't usually consume alcohol, you can still participate in this lecture by learning some specialized tips for sniffing.

What Is Whiskey?

- Whiskey is distilled beer aged in oak.
- Distillation was brought from Africa to Europe by the Moors. Between 1100 and 1300, distillation spread in Ireland and Scotland through monastic distilleries.
- The southern belt of Europe produced spirits based on grapes and other fruit, while spirits in the northern belt were based on grain, such as barley.

Malting

- The first step in making whiskey is **malting**. This is the process of changing the starch in barley into fermentable sugar.

- The barley is first soaked in water for about 48 hours, which triggers germination. The grains are then laid in large drums, in which the air is cool and humid.

- In about five days, the barley begins to sprout, at which point, it is called a **green malt**.

- To kill further new growth yet retain the fermentable sugars, the green malt is heated in kilns. The kilns may be fueled by coal or **peat**, a semi-carbonized, partially decayed vegetation that comes from bogs, moors, and swamp forests.

- If the kiln includes peat, the smoke from its fire infuses the barley with intense flavors of smoke, toast, and sometimes a vegetal or briny note. In general, whisky produced in Scotland is peated, and Irish whiskey is unpeated.

- If you see the word "malt" on the bottle, as in "single-malt whiskey," it means that the whiskey is made with 100 percent malted barley. Not all whiskies are made with barley, and not all those made with barley are malted.

- After the barley has been malted, it is milled to strip away the outer husk, enabling the distiller to get at the fermentable sugars.

- In grain whiskies, unmalted grains are put in a pressure cooker at a high temperature to hydrolyze the starch. Then, the grains are ground into a rough flour.

- This flour (or grist) is mixed with hot water and crushed into a mash. The water pulls the fermentable sugars into the solution, which is now called a **wort**.

Fermentation

- To start the fermentation process, the wort is cooled and yeast is added. After 48 hours, the liquid is about 7–10 percent abv and is no longer a wort, but a wash.

- Not only the speed of mashing but also the length of fermentation affects flavor. A short ferment with a cloudy wort gives a more malty flavor. A longer ferment with a clear wort results in more congeners for more layers of flavors and complexity.

Distillation

- Pot stills are generally used for single-malt whiskies, while column stills are used for grain whiskies.

- As mentioned in the last lecture, with a pot still, the wash is heated in a vessel, causing the liquid to vaporize and the alcohol vapors to rise into the neck of the still. The vapors then travel into a water-

In the interior of a Scottish whisky distillery, you will find stills that are used in the distillation process.

cooled condenser, where they condense into liquid. The resulting low spirit is then sent back through the still to reach the desired alcohol level.

- Column stills use steam to separate alcohol from the wash and produce high-strength spirits. As opposed to the batch system used with the pot still, the column still is loaded only once.

Maturation

- The result of distillation is a clear liquor called aqua vitae (or "water of life,"), which is then put into oak barrels.

- These barrels give whiskey its color and up to 70 percent of its flavor. The origin of the barrel, what it previously held, and the length of time in the barrel significantly affect the flavor.

- The longer the whiskey is aged in the barrel, the deeper the color, the richer and more concentrated the whiskey, and the more notes it has of caramel and spice.

Labeling

- In order to be called scotch, the spirit must age for at least 3 years in oak, but the number on the bottle is the age of the youngest scotch in the blend.

- The term "cask strength" means that the scotch was not diluted with water and is usually about 50–60 percent abv.

- "Single-malt" whiskey is made from malted barley from one distillery. "Blended malt" is made from a blend of malt whiskies from more than one distillery.

- Similarly, "single grain" is grain whiskey from one distillery, and "blended grain" comes from more than one distillery.

Irish and Scottish Whiskies

- Scotland's whisky-producing areas are split into four main regions: the Highlands, Lowlands, Speyside, and Islay.
- Each of these regions produces whisky with its own character, from the light, gentle scotches of the Lowlands and Speyside to the famously smoky, peaty island scotches.
- Scotland has about 100 distilleries, while Ireland has just three: Bushmills, Cooley, and Midleton.
- Except for Bushmills, which uses exclusively malted barley in its single-malt whiskies, the Irish signature is the use of unmalted barley.

North American Whiskies

- In the 18th century, immigrants from Scotland and Ireland brought their love of whiskey to North America.
- Depending on where they settled, these immigrants used what was on hand for the base material. In Maryland and Pennsylvania, for example, they used rye, while in Kentucky, they used corn.
- Most bourbons (and Tennessee whiskies) are first distilled in single-column **beer stills**. But the wash from such a still isn't high enough in alcohol to barrel age, so it's put in a pot still called a "doubler" for a second distillation to increase the alcohol and remove impurities.

Important Terms

beer still: A single-column still used to distill bourbon and some other spirits.

green malt: Germinated barley.

malting: The first step in making whiskey; the process of changing the starch in barley into fermentable sugar.

peat: A semi-carbonized, partially decayed vegetation that comes from bogs, moors, and swamp forests. Sometimes used to fuel kilns in which green malt is heated in the process of making whiskey.

wort: The liquid that derives from the mashing process, containing fermentable sugars.

Whiskey—The Complex Spirit

Lecture 2—Transcript

Mark Twain said, "Too much of anything is bad, but too much of a good whiskey is barely enough." Whiskey fans are *very* loyal. But what comes to mind if I say "whiskey drinker" to you? If you are a true fan of James Bond, you know that the mixed drink he had the most often is scotch and soda (from the books, not the movies). Winston Churchill was a great fan of whiskey, but famous actors, such as Clark Gable and George Clooney, love it, too.

So is the whiskey drinker the strong, sophisticated, worldly type you think of? Or is it a John Wayne cowboy type of character who strolls up to a bar and says, "Gimme the strongest thing ya got!" Either way, drinking whiskey seems to say, "I'm a real man."

This was one of the reasons I shied away from it for years. I thought it would be too strong for me or not appropriate. But I was completely missing out on some incredible flavors, textures, and taste sensations.

It was actually after I found my appreciation for wine that I started looking into whiskey. It sounds bizarre, I know, but just as with wine, whiskey's intricate and many layers of flavors and complexities are fascinating. There's a discovery in every glass.

Spirits for Today's Lecture
In today's lecture, we'll be tasting and demonstrating the following whiskies:

- Single-malt scotch (preferably peated)
- Irish whiskey
- Bourbon
- Rye whiskey

- Macallan Sherry Oak
- Macallan Fine Oak scotch

You may want to get these to taste along with me or invite a few friends over to contribute a bottle and bring down your costs (and have an excuse for a get-together). Even if you just have one of these, your viewing will be much more interactive and fun.

Cocktails for Today's Lecture
Our mixologist for the lecture will be Owen Thomson. In this lecture, we will make three cocktails—two classic recipes, a Mint Julep and a Manhattan, and then one that's hot, an Irish Coffee. If you want to make these with us, make sure you get the list of ingredients from the recipe section of your guidebook.

When I first started tasting spirits, the alcoholic strength was a bit too much for me. Perhaps you're like this, too, or maybe you're the designated driver and you don't want to consume any alcohol at all. That's ok. Here are a few tricks that will enable you to participate and still learn a lot:

- Smell your hands. As mentioned in the last lecture, you can actually take a drop of the spirit, rub it in your hands, and then smell your hands. It's amazing how many aromas you can get just by smelling your hands. Don't laugh, this was a technique I used when first learning.

- Adding water can reduce the alcohol burn in your nose when smelling spirits, and whiskey fans know that even a drop of water can amplify the aromas. Don't believe me? Try this test: Take two Old-Fashioned glasses and put the same amount of the same whiskey in each. Then add a few drops of water to one of the glasses. You really want to go back and forth between the two. Do you notice a difference? The water reduces the impression of the alcohol, which allows some of the other aromas to shine through.

What Is Whiskey?

If you distill wine and age it in oak, you get brandy—which we'll talk about later in the series. Whiskey is distilled beer aged in oak. This explanation hardly does either justice, but it's a simplification that can help you understand both at their core.

In a quite simple way, whiskey can be described as beer that is distilled and aged in oak.

Distillation was brought from Africa to Europe by the Moors. Between 1100 and 1300 A.D., distillation spread in Ireland and Scotland through monastic distilleries. The Moors used the technique to make perfumes, but the monks used it largely for medicinal purposes, such as the treatment of colic, palsy, and smallpox.

It's no accident that the southern belt of Europe produced spirits based on grapes and fruit, while those in the northern belt based their spirits on grain. Since the northern isles had few grapes with which to make wine, barley beer was used instead.

I lived in the United Kingdom for a little while. It's cool, grey, and damp most of the time, and I've always thought of whiskey as liquid sunshine for the British.

Scotland and Ireland were the first producers of whiskey, so let's start there and then we'll look at some of the whiskies from elsewhere around the world.

In many ways, brandy production is easier to understand. If you take grapes, crush them, and add yeast, you get wine, which you can distill. You can't do that with grain. You need more steps, such as malting, milling, and mashing.

Malting

Let's look at malting, the first step in making whiskey. Malting is the process of changing the starch of barley into fermentable sugar. Malting barley releases enzymes that help the process.

The first step is to soak the barley in water for about 48 hours. This triggers the germination process. The grains are then laid in large drums, where the air is cool and humid.

In about five days, the barley begins to sprout. At that point, the grain is called a "green malt." Only a handful of distilleries malt on site. Most use commercial malting facilities. After the barley becomes green malt, it's necessary to stop any more green plant growth, because the whole point is to get fermentable sugar, not to sprout new barley plants. To kill the new growth yet keep the fermentable sugars, the green malt is heated above kilns. A fire is lit in the kiln, and the grain is held above on perforated floors.

How the kilns are heated has a significant impact on flavor. Some kilns are fueled by coal, but others are by peat. Peat is a semi-carbonized, partially decayed vegetation that comes from bogs, moors, and swamp forests.

If the kiln includes peat, the smoke from its fire infuses the barley with intense flavors of smoke, toast, and sometimes a vegetal/ briny note. This adds layers of flavors, or complexity, to the resulting spirit.

This is where many whiskey producers differ, particularly in Scotland and Ireland. To peat or not to peat, that is the question. So who does and who doesn't?

To use a sweeping generality, we can say that scotch has peat and Irish whiskey does not. Products from the islands of Islay are typically peated. However, not all producers in Scotland use peat, and I can think of one producer in Ireland that does use peat.

Here we have a peated Scotch whisky (Laphroiag or Highland Park) and an unpeated Irish whiskey (Jameson whiskey). Smell and taste the unpeated whiskey first. Now smell and taste the peated whisky.

What do you think? You probably notice that the peated whisky smells smokier, toasty, spicy, and more intense. The peated whiskies always remind me of sitting fireside and smelling all the wonderful aromas the fire gives off. Besides, the whisky itself is nice and warming on the inside.

Adding these layers of complexity is one of the benefits of peating. The more peat added to the fire, the more intense the peaty flavors.

How Much Malt?

If you see the word "malt" on the bottle, as in "single-malt whiskey," it means that the whiskey is made with 100 percent malted barley. Not all whiskies are made with barley and not all those made with barley are malted.

Producers of grain whiskies in Scotland and Ireland, as well as producers of bourbon, use only a small amount of malted barley and focus instead on other types of cereals or grains. It takes only a fraction of malted barley to create the enzymes to break down the starch into fermentable sugars.

After the barley has been malted (meaning soaked, germinated, and kilned), it's taken to a mill where mechanical rollers, hammers, and grinders break and strip away the outer husk (covering) so that the distiller can get at those fermentable sugars.

In grain whiskies, the unmalted grains are put in a pressure cooker at a high temperature to hydrolyze the starch. Have you ever boiled potatoes to get them soft and mushy? This is the same concept to get to the fermentable sugar.

Once we have fermentable sugars in the grains, whether malted or not, the grains are then milled—and ground into a rough flour. This flour (or grist) is placed into a "mash tun" (a tank or vessel), where it's mixed with hot water and crushed into a mash. The water pulls the fermentable sugars into the solution. This new fermentable sugar/water solution is called "wort," and it is now placed into a fermenter called a "washback."

Why do we care about this process? It affects the flavor in the resulting whiskey. For example with scotch, if the distiller does this process quickly, it

pulls solids along into the washback for a cloudy wort, which will result in a more malty flavor.

Fermentation

Now we're ready to start fermentation. The wort is cooled and yeast is added. After 48 hours, the liquid is about 7–10 percent abv. It is no longer a wort, but now considered a wash.

The speed of mashing affects flavor, but so does the length of fermentation. A short ferment (meaning less than 50 hours) with a cloudy wort gives a more malty flavor. In a longer ferment, chemical reactions take place, such as autolysis, and more congeners are created for more layers of flavors and complexity.

Distillation

Finally, the wash is ready to be distilled. At home, you can see how distillation works. Take a teapot of water and heat the water until it is boiling. As the steam comes out the spout, cover it with a pot lid. Notice how vapor collects and condenses on the underside of the lid. Congratulations! You've just distilled water. Distillation of alcohol works by the same concept, although alcohol actually boils before water (it has a lower boiling point temperature).

Aroma molecules are more chemically similar to alcohol molecules than they are to water. So through the process of distillation, the aroma molecules tend to cling to the alcohol molecules. When a low wine or wash is heated, the alcohol molecules vaporize first. Clinging to them are these aroma/flavor molecules that condense and then get captured.

Pot stills are generally used for single-malt whiskies, while column stills are used for grain whiskies. Let's take a quick look at each, starting with pot stills.

How a Pot Still Works

The wash is first poured into the pot still. At this stage, it's called a "wash still" because it holds the low wine or wash. The pot vessel is heated over a fire. The fire sends the alcohol steam up into what's called the swan's neck. The vapors go into a water-cooled condenser, where they condense

into liquid. The low spirit is then sent back into a pot still (this one is called a "spirit still") to undergo the same process. The spirit is then placed into waiting containers or directly into oak barrels.

The pot still requires more labor because it's a batch system, meaning that to get the spirit to a high enough alcohol level, it has to go through the still a few times. However, this process generally collects more congeners and complex flavors than column stills, which require only one run through the system.

How a Column Still Works

Column stills use steam (versus a pot over a fire) to separate alcohol from the wash and produce a high-strength spirit. And as opposed to the batch system used with the pot still, the column still is loaded only once to get that alcoholic strength.

Scottish and Irish grain whiskies are generally made in column stills, and vodka, rum, and gin are also made in this type of still.

Scotch grain whiskies are mainly made from maize, but other grains can be used.

Maturation

Whichever kind of still you use, you end up with a clear liquor called aqua vitae (or "water of life,"), which is then put in barrels.

These oak casks give whiskey not only its color but up to 70 percent of its flavor. The origin, type, and length of time in the barrel significantly affect the types of flavor.

The Macallan has a line of scotches aged in sherry oak that is called, not surprisingly, the Sherry Oak line. What this means is that before the oak barrels came to the distiller, they were filled with sherry from Spain.

These sherry oak casks are made from European oak, which has a higher tannin level and provides a range of flavors, such as dried fruit, spice like Christmas spices of clove or nutmeg, chocolate, and orange peel notes.

The Macallan also has a Fine Oak range, which includes some American oak barrels that previously held bourbon. Bourbon barrels made from American oak provide notes of vanilla, slight coconut, and some say, delicate citrus, apple, and floral notes.

We can use our four S's—see, sniff, sip, and savor—to compare these two scotches.

First let's see: Pick up the Sherry Oak scotch and put it against a white surface to take note of the color. Look at the light, tawny kind of color here. Now pick up the Fine oak. Notice it's a bit ligher in color. That's not by accident.

Now sniff both of them side by side. The Sherry Oak has notes of dried orange peels, caramel, and toffee. The Fine Oak is a bit lighter, more delicate in it's aromas and a little more floral.

Now let's taste them, roll it around on you rpaate. You're going to notice the Fine Oak is a bit more delicate while the Sherry Oak is rounder in flavor and has a little less body .

Some producers do what is called "finishing" their scotches, but this doesn't mean that others aren't "complete." To "finish" a scotch means that after the spirit is aged in one set of barrels, it is then placed into different set that previously held something else—wine, rum, sherry, port, Sauternes, and so on. Each one infuses the whiskey with more layers of flavors that were in what the barrel held previously.

The length of time in barrel affects flavor, as well. The longer the whiskey is in the barrel, the deeper the color, the richer and more concentrated the whiskey, and the more notes it has of caramel and spice.

Because oak is a porous material, the liquid inside it is subject to evaporation. This concentrates the flavors, but it also reduces the amount of alcohol.

Labeling

You can tell from the bottle how long the whiskey has been aged. In order to be called scotch, it must age for at least 3 years in oak, but the number on the bottle is the age of the youngest Scotch in the blend. If the label says 18 years old, that's not the average age of the blend; it's the age of the youngest scotch in the blend.

Once the whiskey is aged to the desired point, it's blended and bottled. The spirit is reduced with de-mineralized water to get it to bottling strength (at least 40 percent abv).

You may see the term "cask strength." This means that the scotch was not diluted and is usually about 50–60 percent abv.

Whiskies are then chill-filtered to stop potential clouding at low temperatures, and caramel coloring is allowed to standardize the color. You should know, though, that most premium and single-cask malts are not chill-filtered and do not have added caramel color.

You can tell a lot from the label besides age. I already mentioned that single-malt whiskey is made from malted barley from one distillery. There's also blended malt, made from a blend of malt whiskies from more than one distillery. If you see "blended grain" on the label, it's grain whiskey (wheat or corn with about 10 percent malted barley) that comes from more than one distillery. If you see the words "single grain," you have grain whiskey coming from one distillery.

Scottish Whisky

Scotland's whisky-producing areas are split into four main regions: the Highlands, Lowlands, Speyside, and Islay or Island whiskies. Each of the whiskies produced in these regions has its own character, stemming from cultural, historical, geographic, and commercial factors—not directly from the impact of the soil and climate, or what's called terroir by the French.

The largest geographic area is the Highlands; its whisky has the widest range of characteristics, including malty, sweet, grassy, heavy, and fruity.

Most lowland scotches go into the blends, and there aren't many distilleries left in the region. These scotches tend to be light and gentle, without the peaty or briny characteristics of the many island malts.

Speyside has the highest concentration of malt distilleries, which fall into two camps: the light, fragrant, and floral (such as Glenlivet and Glenfiddich) and the richer, fruitier examples, such as The Macallan and Balvenie.

Finally, we have Islay and the island scotches. This is the region where peated whisky is famous. Historically, these islands didn't have any coal, so distillers used the fuel source they had on hand, peat. Some of the scotches from Islay are unpeated, but many are peated and some heavily so, which gives this area's scotch its famous smoky, peaty, briny taste.

Irish Whiskey

Scotland has about 100 distilleries. Ireland, on the other hand, has three: Bushmills, Cooley, and Midleton. Ireland may have fewer distilleries than Scotland, but the Irish were the first to distill whiskey.

You see both pot and column stills in Ireland, and Midleton (where Jameson whiskey is made) has both. Except for Bushmills, which uses exclusively malted barley in its single-malt whiskies, the Irish signature is the use of unmalted barley, which makes the backbone of Irish blends.

Let's use our four S's again to compare two whiskies of the same age, Highland Park and Jameson Irish whiskey. We've taken note of the color, now let's sniff and taste: You can see what they're talking about. It has a fruity kind of note and a little bit of an oily teture, a little bit of spice, but you can also tell you're gettin gthat flavor of grain that unmalted barley. Taste the Highland Park. Even just in the nose the peatiness really comes through and you're gettin gthat element of malt on the palate. This is very spicy becuase you've got the peatiness there. It's a bit more robust on the palate.

North American Whiskies

Now on to North America. Early immigrants from Scotland and Ireland came to North America and brought with them their love of whiskey. This became popular very, very quickly. By the time George Washington died, he

had five working stills at Mount Vernon and manufactured 11,000 gallons of rye whiskey.

By 1791, it is estimated that there was one whiskey still for every six people in America, including children. And in some areas, whiskey was used as currency—even clergymen were paid in whiskey!

Depending on where they settled, immigrants used what they could for the base material. In Maryland and Pennsylvania, for example, they used rye. In Kentucky, they used corn—even today, bourbon must be at least 51 percent corn. Bourbon can come from anywhere in the United States but must be made from a grain mixture that is at least 51 percent corn.

Bourbon must be aged in new, charred, American oak barrels. American oak has a high level of color and flavor compounds (such as vanillin and lactones) which give the spirit its more reddish hue and notes of vanilla, coconut, pine, chocolate, tobacco, and sometimes some people say cherry notes.

Unlike what we saw in Scottish grain whiskies, no color additives are allowed in the production of bourbon.

Nowadays, most bourbons (and Tennessee whiskies, for that matter) are first distilled in single-column stills called "beer stills." These stills are made of copper or stainless steel with copper packed on certain plates.

The wash from such a still isn't high enough in alcohol to barrel age, so it's put in a pot still called a "doubler" for a second distillation to increase the alcohol and remove impurities.

Tennessee whiskey conforms to the same regulations as bourbon, except that corn isn't required to be the dominant grain. It usually is, though, and Tennessee producers could call their products bourbon if they wanted to, but they don't.

The very first American whiskies were made from rye. To be classified as a rye whiskey, the "mashbill," that is, the grain recipe, must be a minimum of 51 percent rye. Rye is distilled in basically the same process as bourbon.

What difference does all this make to taste? Let's do our four S's: Here we have scotch and bourbon. Smell the scotch and you're smelling some of that peatiness again. Smell the bourbon; the bourbon smells kind of sweet becuase that's from the corn. Some bourbons have some rye in them but Makers Mark doesn't have any so you're not gettting some of that rye character. But you are getting some of the vanilla on those lactones that are coming from American oak.

Let's taste them now. You're tasting some of the malted barley with the scotch with the bourbon. It's got a really bright attack. You've got a kind of vanilla flavor. You're getting that sweet impression of the corn, a little bit of a coconut character as well. And you're getting some spice toward the finish

Now let's taste the rye whiskey and compare it to the bourbon. Like i said, Makers Mark doesn't have any rye in it so it's a good one to compare and contrast to. Smell the bourbon then smell the rye whiskey. You're goin to notice rye has it's own unique, spicy, aromatic lift and is almost lemony-scented. Let's taste the rye whiskey on the palate. You're going to noitce it tastes a little bit lighter but it can be intense and have an acidic, slightly oily bit to it.

There are some other terms on American whiskey bottles that you should be aware of:

- A "straight" whiskey has 51 percent of one grain, is distilled to no more than 80 percent abv, and is aged for a minimum of 2 years in new oak casks.

- A "blended" whisky in Scotland means that the base material is a blend of grain and malt whisky and/or comes from more than one distillery. In the United States, it means a blend of straight whiskey and neutral corn spirit.

Cocktails
Whiskies are used in all kinds of cocktail categories, such as sours, juleps, toddies, smashes, nogs, and punches. Here we have a few classics, made by our award-winning mixologist, Owen Thomson. He'll be making a Mint Julep, a Manhattan, and an Irish Coffee.

Recipes

Mint Julep (Bourbon)
Mixologist: Owen Thomson, America Eats Tavern

For this recipe, you'll need:

- 8–12 leaves of fresh mint
- ½ oz simple syrup
- 2 ½ oz bourbon

In a highball or Collins glass, muddle one sprig of mint. Fill with crushed ice and add the simple syrup and bourbon. Swirl with a bar spoon until the outside of the glass frosts. Top with more ice and garnish with a sprig of mint.

Manhattan (Rye Whiskey)
Mixologist: Owen Thomson, America Eats Tavern

For this recipe, you'll need:

- 2 oz rye whiskey or bourbon
- 1 oz sweet vermouth (or dry vermouth if you prefer drier cocktails)
- 2–3 dashes Angostura bitters (or more to taste)
- Brandied cherry for garnish (Luxardo brand is good)

Pour all ingredients into a mixing glass over ice and stir with a bar spoon. Strain into a chilled cocktail glass. Garnish with the cherry.

Irish Coffee
Mixologist: Owen Thomson, America Eats Tavern

For this recipe, you'll need:

- 1 ½ oz Irish whiskey
- coffee
- 1 tbsp sugar
- whipped cream (freshly made)

Combine whiskey, coffee, and sugar in a toddy glass. Top with whipped cream.

Up Next
As you can imagine, there are a lot of variations with all these drinks. Have fun experimenting!

I hope you enjoyed this lecture on whiskies. Next up, we're going to the tropics to learn about rum. Instead of grain, rum's base is sugarcane. Rum has a fascinating history and is used to make a wide variety of versatile cocktails. For this lecture, you may want to have handy the following:

- *rhum agricole* (based on sugarcane juice)
- white rum (preferably based on molasses)
- gold rum (from Barbados)
- dark rum
- Jamaican rum
- spiced rum or navy rum (Captain Morgan)

So until then, cheers!

Rum—The Versatile Spirit

Lecture 3

DRINKS FOR THIS LECTURE:

- *rhum agricole* (based on sugarcane juice)
- white rum (preferably based on molasses)
- gold rum (from Barbados)
- ark rum
- Jamaican rum
- spiced rum or navy rum (Captain Morgan)

Rums come in a wide range of colors and flavor profiles. They can be white; pale gold; deep, rich gold; or tawny brown, and their flavors can range from delicate and slightly grassy to intense and spicy. Because rum has such a range of styles, it's good for mixing in cocktails or sipping. As with other spirits, the base materials and maturation process influence the flavor of rum, but with this spirit perhaps more so than others, history and geography also play significant roles in the modern-day aromas and flavors we experience.

The History of Rum

- Rum is based on sugarcane, which was first brought to the Caribbean by Christopher Columbus in 1493. Sugar was the "white gold" of the 17th century, and Europeans grew sugarcane throughout the New World.

- To make sugar, sugarcane is crushed, and the juice is extracted and boiled. Then, the cooked liquid is allowed to crystallize into sugar. Molasses is what's left over from the process of making sugar and is fermented to make rum.

- One European called the early version of rum "a hot, hellish, and terrible liquor," but sugarcane plantation owners made improvements to the spirit, and soon, a booming trade was born.

Fermentation and Distillation

- Producers of rum must dilute molasses with water to bring down the concentration of sugar before adding yeast. Otherwise, the sugar content of molasses is too high, and the yeast will grow too fast and die.

- Just as we saw with whiskey production, the shorter and faster fermentations produce lighter rums, and the longer and slower fermentations create richer, heavier rums.

- The lighter rums (which usually have lower alcohol strength) are generally placed in column stills. This results in the lighter, fruitier flavor that is typically found in unaged or white rum.

- Longer, slower fermentations usually result in more pronounced congeners (or flavor compounds, such as ketones, esters, and aldehydes). Darker rums with these longer fermentations are generally produced in pot stills.

- Some distillers use **retorts**, which are copper vessels that hold the washes from previous distillations. Vapor from the current distillation flows into the retorts and boils the liquid held there. This step allows more vapors to be released and congeners to be collected to create more flavor.

- The heart of the spirit is collected at an average of about 85 percent abv.

Sugarcane-Based Rum

- More than 90 percent of rum is made from molasses, but not all of it is. Some rums are made from sugarcane juice, such as ***rhum agricole*** ("agricultural rum").

- *Rhum agricole* is primarily produced in the French-owned islands or former colonies, such as La Réunion, St. Barths, and Martinique.

- Making rum from sugarcane juice is a time-sensitive process. The sugarcane is crushed right after harvesting, and the fresh juice goes immediately into the fermenters. The wash goes into a copper column still for distillation, and then, the spirit is aged.

- Rum made from molasses tends to have distinctly tropical aromas and flavors, while that made from sugarcane tends to have herbal or vegetal notes.

- Another cane juice–based spirit is ***cachaça*** from Brazil, only a fraction of which is exported.

- Some of the French islands do make molasses-based rums, called ***rhum industriel***. These lower-quality rums are used predominantly as flavoring in bakeries and the tobacco industry.

Maturation

- The maturation process has a significant influence on the finished rum.

- Clear or white rum is typically unaged, but some producers of white rum allow it a touch of oak aging. The spirit is then filtered to remove any color. White rum is fruity and light, making it very versatile for cocktails.

- The deep color of gold rum means either that caramel coloring was added to the spirit or that it was aged in oak. Alcohol is an extracting agent, and the longer it stays in wood, the more color it extracts.

- Gold rum (or light rum) has generally seen a minimum of 1 year of aging in oak barrels or stainless-steel tanks.

- Most rums spend time in oak casks that were previously bourbon barrels. Bourbon requires new charred American oak barrels, which impart flavors of vanilla, coconut, and spices.

- You can tell by the color of dark rum (or ***reposado***) that it has seen much longer aging. The spirit is usually aged for a minimum of 3 years in charred oak barrels.

- With dark rum, the aromas include coffee, toffee, and caramel. The fruit notes seem to be more reminiscent of cooked fruit (as in Bananas Foster) than fresh tropical fruit.

- Barrels are toasted on the inside before the first spirit is poured in. This toasting modifies the wood's physical and chemical properties. It makes lactones and vanillins available to the spirit and caramelizes the wood sugars for absorption into the spirit.

- The longer the rum sits in the barrel, the more water and alcohol evaporate; this concentrates the spirit. You may notice that dark rum is weightier, fuller, rounder, and smoother than white or gold rum.

Gold rum is made on the island of Barbados, which is also where the world's oldest rum distillery is located.

- With dark rum, you may also notice a slightly bitter grip to the finish; this is caused by tannins extracted from the oak in the aging process.

Styles of Rum

- Rums from what were once Spanish colonies are known to have a lighter style than other rums, with fruity aromas. The Latin American style is very user-friendly and versatile for cocktails.

- The former British colonies, such as Jamaica and Guyana, producer dark rums known for their pungency and spicy, aromatic flavor.

Important Terms

cachaça: A sugarcane-based spirit from Brazil.

navy blend or **navy rum**: A blend that combines different styles of rum.

overproof: A spirit that contains more alcohol than proof (meaning 40 percent abv).

reposado: Dark rum; usually aged for a minimum of 3 years in charred oak barrels.

retort: A copper vessel that holds washes from previous distillations. Vapor from the current distillation flows into the retort and boils the liquid held there, allowing more vapors to be released and more congeners (flavor compounds) to be collected.

rhum agricole: Literally, "agricultural rum"; a spirit made from sugarcane juice.

rhum industriel: Literally, "industrial rum"; a molasses-based spirit made in some of the French islands or former colonies.

Rum—The Versatile Spirit

Lecture 3—Transcript

Look at the color of these two spirits in these two glasses. They're so different, aren't they? You might think you are looking at a vodka and a whiskey. But they're not; they're rums. We have a white rum and a dark rum.

Look at the range of colors that you see here in all of these different rums. We've got a white rum and then some that are more pale and gold. Then we have dark rums. The aromas go back and forth between herbal and fragrant, sigthly grassy and herbacious, like those from Martinique. Then they get more pungent and intense, like those from Jamaica. But you also might see spiced rums as well that have a little spicy kick.

As you can see, rum is one of the most versatile spirits. Because it has such a range of styles, it's good for mixing or for sipping. Expensive sipping rums are very trendy, by the way.

Spirits for Today's Lecture
In this lecture, we will taste the following:

- *Rhum Agricole*
- white rum
- gold rum (from Barbados)
- dark rum
- Jamaican rum
- navy rum or spiced rum

As we've said in previous lectures, you don't have to buy all of these rums—or any of them—to participate and learn in this series but the lectures will be more interactive and fun if you do. Watching this series can also be a good excuse to get people together.

In this lecture, we'll make some cocktails with Duane Sylvestre, Mixologist at Bourbon Steak at the Four Seasons. If you'd like to make them with us, make sure you get the list of ingredients from the recipe section in your guidebook.

In today's lecture, we'll make a classic Daiquiri and a Mojito, along with a Caipirinha and a Mai Tai.

How Is Rum Made?

Rum is based on sugarcane, which surprisingly, isn't native to the Americas. In 1493, Christopher Columbus brought the first sugarcane to the Island of Hispaniola in the Caribbean, which today is the Dominican Republic and Haiti.

Sugar was the "white gold" of the 17th century, and Europeans growing sugarcane in the New World made a ton of money. The Spanish had sugarcane in Cuba, Puerto Rico, and Jamaica. The British had it in Barbados; the French, in their colonies; and Portugal, in Brazil. Who owned which outpost will play a much bigger role later on when we talk about influences on style and flavor.

As I mentioned, rum starts with sugarcane. The cane is crushed, the juice is extracted, and the cane juice is boiled. Then, the cooked liquid is allowed to crystallize into sugar. What's left over from the process is molasses. It's kind of syrupy and dark and very, very sweet.

The first sugar producers fed molasses to animals. But the story goes that a slave tasted some molasses with water after it had fermented in the sun, and he liked the effect of the brew—although probably not the flavor. One European called the spirit "a hot, hellish, and terrible liquor."

Fermentation/Distillation

If you know anything about wine production, you know that crushed grapes have yeast on their skins and can start fermenting on their own in the presence of grape juice. It's not so with molasses; it doesn't ferment by itself, despite the legend. Even adding yeast directly to the molasses won't

work. The sugar content is too high, and the yeast grows too fast and dies too quickly.

Producers dilute molasses with water to bring down the concentration of sugar and then add yeast. Just as we saw with whiskey production, the shorter and faster the fermentation, the lighter the rum produced, and the longer and slower fermentations create richer, heavier rums.

The lighter rums (which usually have lower alcohol strength) are generally placed in column stills, like the ones we saw in the lecture on vodka. This results in a lighter, fruitier flavor that is typically found in unaged or white rum, such as Havana Club or Bacardi.

The longer, slower fermentations usually result in more pronounced congeners, or flavor compounds, such as ketones, esters, and aldehydes, and heavier, richer dark rums. These are generally pot still rums. We will taste a pot still rum later in the lecture to show you that they become quite perfumed, particularly those from Jamaica.

Some distillers use retorts. Retorts are copper vessels that hold the liquids from the washes from previous distillations. Vapor from the current distillation flows into the retorts and boils the liquid held there. This step allows more vapors to be released and congeners to be collected to create more flavor.

The heart of the spirit is collected at an average of about 85 percent abv. Knowing when to stop and start collecting is in the hands of the master distiller. Whatever is not used is sent back into the retorts for the second batch.

More than 90 percent of rum is made from molasses, but not all of it is. Some rums are made from sugarcane juice, such as *Rhum Agricole*. Notice that "*rhum*" here is spelled with an "h." The term *Rhum Agricole* means "agricultural rum" in French.

Rhum agricole is primarily produced in the French-owned islands or colonies, such as La Réunion (in the Indian Ocean near Madagascar), Marie-Galante, St. Barths, Guadeloupe, and Martinique.

However, making rum from sugarcane juice is a time-sensitive process. The sugarcane is crushed right after harvesting. Then, unlike molasses, which can sit for a while, the fresh juice goes right into the fermenters, while the leftover fibrous materials from the sugarcane (called *bagasse*) serve as the earth-friendly fuel for the distillery.

The wash goes into a copper column still for distillation and then it's aged. We'll talk about the impact of barrel aging in a bit.

What differences do these methods make in terms of flavor? Let's see.

Here I have a Mount Gay Rum Eclipse and a Depaz Rhum from Martinique. Depaz uses blue sugarcane, which is esteemed for its higher sugar content, high quality, and better flavor than other sugarcane varieties.

Let's taste the Mount Gay first.

Mount Gay is from the island of Barbados. The world's oldest rum distillery is there, which is why the company claims to have invented rum. This rum is made with molasses. Let's apply our four S's.

See that it has a gold color. Let's sniff. You get some almost tropical aromas, some coconut—it almost smells like banana, a little cream, and vanilla. Now let's sip. Make sure you roll it around your tongue for a little bit. Note that it's sort of round and smooth, especially toward the finish. You get the same tropical aromas that we got on the nose, and they linger on your palate. Note, too, a slightly oily texture. I don't mean oily in a bad way; when I say "oily," it just means it's a bit viscous.

Now let's taste the Depaz. Let's see. Again, it's a slight gold color. This is a gold rum. Sniff. Notice immediately how fragrant this is. We still get some of those tropical notes that we saw in the Mount Gay rum, but you are going to get some grassy and herbacious tones. That's the influence of using the direct

sugarcane. It has a distinct herbal, and some say vegetal, nose. Sip. Again, roll it around your palate. You are going to notice it's a bit lighter than the one made from molasses. Now savor it. Notice the delicacy or refinement of the rum as you savor it. Sugarcane yields a more delicate spirit, but that doesn't mean it's light in flavor.

If you don't notice the difference, go back and forth between the to the Mount Gay and the Depaz. This time, it may smell even more like molasses in the first one than it did before. Go back and forth between the two to really compare and contrast.

The point is that the sugarcane base of the *Rhum Agricole* yields a more pungent aromatic, grassy, and herbal spirit.

Another cane juice–based spirit is *cachaça* from Brazil. Brazil is the largest producer of sugarcane in the world. Most *cachaça* remains in Brazil; only a small fraction is exported. But what we do see gets blended into tropical cocktails, such as the Caipirinha, which we will talk about later.

Some of the French colonies do make molasses-based rums. These are called *rhum industriel*. Their quality is not as high as some others, and they are predominantly used as flavoring in bakeries and the tobacco industry.

Maturation

The maturation process has quite an influence on the finished rum. Here, we have three rums that were aged very differntly and finished differently.

We start with white rum. Some call it silver; in *Rhum Agricole*; they call it *blanc*. See: This is a style of rum that is clear. Sometimes, this kind of rum doesn't see any oak at all—it is "unaged"—but with some producers, such as Bacardi, the rum sees a touch of oak aging and is then filtered to remove the color and make it clear or white.

Let's sniff. It smells kind of light, delicate, and a little fruity. Let's sip. You can understand why this is fairly popular because it's neutral with just a touch of tropical notes.

You generally don't see people sipping white rum neat, as you might with some other styles. But, the color and light, fruity aromas of white rums make them very versatile for a wide range of cocktails.

You can even use rum to substitute for clear spirits you may not prefer. For example, if you're one of those people who do not like the unique flavor of tequila, you might want to substitute a white rum in place for the tequilas in your Margaritas.

Next, let's look at the gold rum. See the color? It's a deep gold, kind of pale tawny, color. This can mean one of two things: Either caramel coloring was added, or the rum was aged in oak. Alcohol is an extracting agent, and the longer that it stays in wood, the more color it extracts. There is no one set of rules for aging rum around the world. Various governments have different sets of laws. However, gold rum (also called light rum) has generally seen a minimum of 1 year of aging in oak barrels or stainless-steel tankss.

Mojitos are mainly made with rum, mint, lime juice, simple syrup, and soda water.

Now let's sniff. You're going to notice the vanilla, coconut, caramel, and/or toffee tones. These are from the vanillin and lactones that are inside the oak. Most rums spend time in oak casks that were previously bourbon barrels. Remember that bourbon requires new charred American oak barrels, and once they've been used, the bourbon producers really can't do anything with them again, so they usually sell them, in this case, to rum producers. American oak generally imparts such flavors as vanilla, coconut, and spices that you're getting in the rum.

Let's sip. You're goint to notice it has more weight than the white rum. Some white rums have a more vegetal-like characteristic, but because oak is a porous material and allows oxidation to occur, some of those notes are converted into fruity esters. Also, this oxidation process actually softens the

impression of the rum, which is the reason you're getting some smooth kind of character.

Notice how the flavors of the oak, like the vanilla and coconut, last. Did the flavors stay the same from the "attack" (the first few seconds after you sip) after, say, 10 seconds, 30 seconds, a minute? Are you still tasting the flavors? Remember, the longer the flavor lasts on your palate, the better the quality of the spirit.

Gold rums are sometimes sipped, but many times, they are put into cocktails. Gold rums have a bit of spice to them, which can add an entirely new dimension to your cocktails, more than white rums.

Finally, we turn to the dark rum. Let's take a look at this. See. This one has a much darker color than the others. You can tell it's seen a longer aging in oak. Different governments have different rules, but the term "dark rum" (or *reposado*, as it is called in some countries) means that the spirit is aged for a minimum of 3 years in charred oak barrels.

Now let's sniff. We go from subtle hints of vanilla to more coffee, toffee, and darker caramel tones. The fruit flavors go from fresh tropical notes in the white and gold rums to more cooked fruits. Sometimes, these rums remind me of a dessert called Bananas Foster, in which the bananas are flamed and caramelized.

Have you ever struck a wooden match and noticed the aromas you get? Obviously, the beginning part is the sulfur, but if you pay attention as the flame moves toward the middle of the match, you may notice some toast or even some spicy kinds of notes. Try it and see if you smell these. Or the next time you are near a wood-burning fire, take note of the aromas that you get.

Barrels are toasted on the inside before the first spirit is placed inside. This modifies the wood's physical and chemical properties. It makes lactones and vanillins available to the spirit and caramelizes the wood sugars for absorption into the spirit for flavor.

The toasting (and sometimes charring) of the inner part of the barrels also has another benefit: It can remove some of the more aggressive edges in the spirit and make it smoother.

Now let's take a sip. You can definitely notice some of that smoothness on the palate. The longer the rum sits in the barrel, the more water and alcohol evaporate; this concentrates the spirit. Do you notice that concentration? That richness of flavor? You may notice that this dark rum is a bit weightier, fuller, rounder, and smoother than the previous two.

With dark rum, you may also notice a slightly bitter grip to the finish. When rums age for a considerable time in oak, flavors are extracted, as well as compounds called tannins. We see tannins in big, burly cabernets in the wine world, and we start to see it with the dark rums. Some people are quite sensitive to tannins while others are not. See if it makes an impression on you either way.

Savor. Notice how you are still tasting these flavors! The rums that are destined to age are generally higher-quality rums (not always, but often). For the distiller or producer, having spirit tied up in barrels for years also means that their cash is tied up for years. Thus, the spirit had better be of high quality—they can charge more for it.

Many dark rums are sipping rums, but they can also be used in cocktails that call for some of those rich, darker, spicier flavors. We see, then, that as rums age in oak, their color deepens from white to dark brown; the aromatics go from fresh and fruity to toffee/coffee/Bananas Foster kinds of flavors; and the concentration on the palate goes from a light and delicate to a rich, round, and smoother kind of rum.

As we mentioned before, the rum's origins and history make a big difference in its characteristics.

Rums from what were once Spanish colonies are known to have a lighter style. Bacardi is the best known example of Latin American–style rum. Bacardi was founded in Cuba but is no longer there now. The firm has several distilleries across Central and South America.

Here we have a Bacardi made in the Latin American–style. This one is a white rum. It's clear, but you're still going to get the whole idea. Sniff it; you're definately going to notice it's light and delicate in some of its aromas. You're going to get those fuity aromas. Let's sip. You're going to notice how light it is on the palate. Notice how long it lasts.

Bacardi is the most popular rum in the world, and it's easy to see why. This light style is very user-friendly and quite versatile for many cocktails.

The British colonies have a very different style than the Spanish ones. Here, we have a Jamaican rum. Jamaica was a British colony from the mid-1600s until 1962. Jamaican rums, particularly those in pot still rums, such as this Appleton rum, are known for their pungency and spicy, aromatic flavor.

Let's take a look. This one is a gold rum, so you're going to notice the gold color. Let's sniff; you're definitely going to notice it's much more aromatic. It's actually jumping out of the glass at you. You're going to notice its spiciness. Earlier, we spoke of longer ferments, which create more congeners (flavor components). In Jamaica, these congeners are sometimes higher in esters, which makes the resulting rum quite perfumed.

Let's take a sip. You're going to notice the weight of it on your palate. It's much weightier and richer than the Latin American–style rum or the Spanish-style rum. Notice how long these spicy styles last on the palate.

The British-style rums add a bit of spice to mixers and cocktails and are served neat or on the rocks.

Flavored rums are generally less than 40 percent abv and some have sweetness to them. These are generally used as flavoring in cocktails or can be served neat or on the rocks. Cruzan, made in the U.S. Virgin Islands, comes in at least eight different flavors. They offer great versatility for a bartender to work with in making cocktails.

Cocktails

Speaking of cocktails, we have four for you in this lecture: a Daiquiri, Mojito—both a clean and a rough version; a Caipirinha; and a Mai Tai. Let's go to award-winning mixologist Duane Sylvestre to learn how to make them.

Recipes

Daiquiri

Mixologist: Duane Sylvestre; Bourbon Steak, Four Seasons

For this recipe, you'll need:

- 2 oz light rum
- ¾ oz rich simple syrup
- ¾ oz fresh lime juice

Shake all the ingredients with ice and strain into a chilled cocktail glass.

Mojito

Mixologist: Duane Sylvestre; Bourbon Steak, Four Seasons

For this recipe, you'll need:

- 2 sprigs of fresh mint
- 1 oz simple syrup (1 part water; 1 part white sugar; heat to dissolved state)
- ¾ oz fresh lime juice
- 2 oz premium white rum
- 2 dashes of Angostura bitters (optional)
- 2 oz club soda (to top up glass)

Muddle one mint sprig with the simple syrup and lime juice in the bottom of a mixing glass. Add the rum (and the bitters if you'd like). Add ice, shake, and strain over cracked ice into a highball glass. Top up with soda and garnish with the other mint sprig.

Caipirinha
Mixologist: Duane Sylvestre; Bourbon Steak, Four Seasons

For this recipe, you'll need:

- 2 oz Brazilian style rum (Cachaca)
- ¾ oz lime juice (cut into wedges)
- 2 bar spoons (or 1 tsp to taste) turbinado sugar

Muddle lime intensely. Add spirit. Fill tumbler with ice.

Mai Tai
Mixologist: Duane Sylvestre; Bourbon Steak, Four Seasons

For this recipe, you'll need:

- ½ oz Orgeat or almond syrup
- ½ oz Cointreau
- 1 ½ oz golden rum
- ¾ oz freshly squeezed lime
- cherry and orange for garnish

Shake, strain directly over ice in a Collins glass, garnish with a flag (a cherry and one other fruit).

Next Up
In the next lecture, we'll head to Mexico to look at two nearly identical spirits based on a plant material: tequila and mezcal. They're both made with the agave plant, but only tequila is made with the high quality blue agave.

If you want to taste with me, you will need the following:

- silver rum
- blanco tequila
- mezcal
- 100% agave tequila (same age as mezcal—prefer reposado)
- highland tequila (or a blend tequila)
- lowland Herradura tequila
- joven/gold tequila
- añejo tequila

If you'd like to make the cocktails with us, look for the list of ingredients in the recipe section of your guidebook.

Many people have a love/hate relationship with tequila, but before you make any rash judgments (based, perhaps, on some bad experiences in college), note that tequila has a wide range of flavors and may be one of the most undervalued spirits available, which is good if you want to participate in the next lecture. We'll also learn the facts and fiction about "the worm" in the bottom of the bottle.

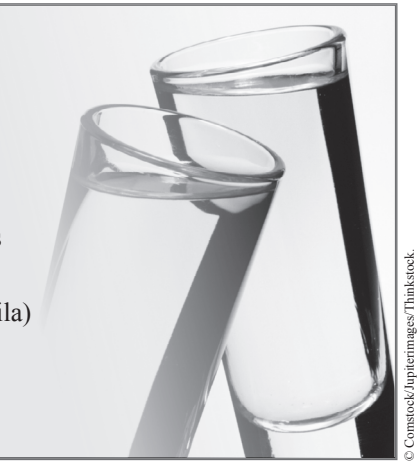
Until next time, cheers!

Tequila and Mezcal—The Ancient Spirits

Lecture 4

DRINKS FOR THIS LECTURE:

- silver rum
- blanco tequila
- mezcal
- 100% agave tequila (same age as mezcal—prefer reposado)
- highland tequila (or a blend tequila)
- lowland Herradura tequila
- joven/gold tequila



Tequila is often seen as the "bad boy" of spirits, but some bad boys turn out to be sophisticated men, and in fact, some añejos and other aged tequilas rank in complexity with some aged rums, whiskies, and brandies. Tequila is also the base of one of the world's most famous and popular cocktails, the Margarita. In this lecture, we'll learn about the history of tequila and mezcal (and the difference between the two) and settle once and for all the question of the "worm."

The History of Tequila and Mezcal

- According to ancient Aztec legend, lava from a volcano set fire to some agave plants and filled the air with a sweet, smoky aroma. When the Aztecs drank the sap oozing from the heart of the plants, they experienced a feeling of euphoria. Thus, they believed that agave was a gift of the gods.

- Later, the Aztecs fermented the sap from the agave and made a liquor called ***pulque***, which was allegedly used to help ease the pain of being a human sacrifice.

- In the 1500s, Spanish conquistadors developed a process for distilling *pulque* into a spirit they called *vino mezcal*.

- In the 1800s, production of this spirit was booming around a town called Tequila in the state of Jalisco, and in the 1870s, Mexico exported its first mezcal from the region of Tequila.

- A comparison of tequila and rum illustrates the differences in taste that stem from the base materials of these spirits: fruity, sweet, and exotic for the rum (sugarcane) and vegetal for the tequila (agave).

Tequila versus Mezcal

- Any spirit made from agave is mezcal, but the term "tequila" refers only to the mezcal that comes from the region of Jalisco and is made from blue agave.

- Mezcal producers may also use younger agave, which yields a simpler spirit with more raw flavors and a stronger "heat" on the back palate.

Harvesting and Cooking Agave

- The part of the agave plant that can be used for tequila and mezcal is the root, which is called the ***piña***.

- It generally takes 8–12 years for an agave plant to grow a *piña* that is large enough to use for tequila or mezcal production. In this age range, the *piña* weighs, on average, less than 200 pounds, but some can reach 300 pounds. A producer can get about 1 liter of tequila/mezcal for every 15.4 pounds of *piña*. Thus, a 200-pound *piña* could yield almost 13 liters.

- The soil and climate in which agave is grown affect the taste of the spirit made from it. In the Mexican highlands, the agave plants tend

to be larger, slower maturing, and higher in sugar, resulting in a fruitier and more delicate spirit.

- In some regions of the lowlands, such as Herradura, the agaves are aged longer (10 or more years), yet the climate conditions allow for faster-maturing agaves, and the result is an earthier, more robust tequila.

- Once harvested, the *piñas* are taken to the distillery for cooking, mashing, fermenting, and distillation.

Tequila can be consumed from a shot glass and is often served with lime wedges.

Fermentation/Cooking

- In order to get at the fermentable sugar, the agave plant must be cooked. Inside the *piñas* are hard balls of carbohydrates that hydrolyze when heated. When the *piñas* arrive at the distillery, they are heated in an oven (called a ***horno***), a pressurized cooker (an autoclave), or over charcoal in a rock-lined pit.

- After cooking, the agave is allowed to rest for a couple of days so that the liquid fermentable sugar, called ***aguamiel***, can be collected as it flows from the pulp.

- The *piñas* are beaten with mallets and placed on a giant grinding wheel (or a mechanical shredder). They are chopped up, minced, and strained to remove the *aguamiel*.

- The *aguamiel* is then put in large vats to create a wort. You may recall that wort is the liquid that is intended for fermentation before distillation. After distillation, it's called a wash.

- There are two basic categories of tequila: 100% agave and **mixtos**. Mixtos are those tequilas that are made with at least 51 percent agave; the other 49 percent can be from other sugars, such as molasses or corn-based sugar syrup.

- After the fermentable sugars are extracted, yeast is added and fermentation begins. The length of the fermentation influences the final flavor.

Distillation

- Once the wash is produced, it can be distilled. Most 100% agave tequilas are pot stilled. Producers of mezcal and mixto tequilas generally use a column still.

- The type of distillation process used results in a difference in the congeners, or flavor compounds. While the 100% agave tequila has complex and refined aromas, the mezcals and mixtos may have more congeners that are a bit rough around the edges.

Aging

- The label on a bottle of tequila tells how old it is and how it was aged.

- The term ***blanco*** or silver on the label mean that the tequila is not aged.

- The terms ***joven*** ("young"), gold, suave, and abocado are also used for unaged tequilas, but these spirits have some color to them (sometimes from caramel coloring).

- ***Reposado*** is the first level of tequila that spends some time in oak, up to 1 year.

- ***Añejo*** means "mature," and these tequilas spend a minimum of 12 months in the barrel, although some age much longer. The barrel size is limited to 600 liters. The smaller the barrel, the more

influence the oak has on the spirit because of the ratio of surface area to spirit.

- The term **extra añejo** refers to a tequila that sees a minimum of 4 years in wooden barrels.

- Spirits pull in flavors from the barrel, such as lactones, vanillin, and other flavor compounds. The layering of flavors contributes to complexity, which is one of the parameters of quality.

- The fact that oak is a porous material means that it allows an oxygen exchange. As oxygen interacts with the spirit, it "smoothes" some of the rough edges, mellowing the spirit.

- Evaporation also takes place, and this makes a difference in the concentration of alcohol and flavor compounds.

- The length of the spirit—the amount of time the flavor lasts on the palate—is also a quality parameter. The length is affected by the quality of the base materials and the flavors extracted and concentration developed during the aging process.

- In sum: Oak increases the number of flavors perceived on the palate, concentrates the flavors, and elongates the finish.

The Worm

- A mezcal, particularly one from Oaxaca, may contain a caterpillar larva—not a worm.

Important Terms

aguamiel: The liquid fermentable sugar derived from cooked agave; used in making tequila.

añejo: "Mature"; refers to tequilas that spend a minimum of 12 months in the barrel.

blanco: "White"; refers to an unaged tequila.

extra añejo: Refers to tequilas that see a minimum of 4 years in wooden barrels.

horno: An oven used for cooking the *piñas* in making tequila.

joven: "Young"; refers to unaged tequilas that have some coloring.

mixto: A tequila that is made with at least 51 percent agave; the other 49 percent can be from other sugars, such as molasses or corn-based sugar syrup.

piña: The root of the agave plant; used to make tequila and mezcal.

pulque: A liquor made by the ancient Aztecs from the fermented sap of the agave plant.

reposado: The first level of tequila that spends some time in oak, up to 1 year.

Tequila and Mezcal—The Ancient Spirits

Lecture 4—Transcript

Most of us have had experience with tequila in college, perhaps in the form of shots accompanied by lime and salt while on a wild spring break. Tequila is the "bad boy" of spirits. But some bad boys turn out to be sophisticated men, as is the case with some añejos and other aged tequilas. These are beautifully sophisticated spirits that I have had the pleasure of tasting in spirits competitions. They rank up there in complexity with some aged rums, whiskies, and brandies.

At one point, tequila held the Guinness World Record for the most expensive spirit in the world: $225,000. And in 2009, Mexican scientists discovered a method to produce nano-size synthetic diamonds from tequila. I wonder what the ancient Aztecs would have said about that!

Tequila is also the base of one of the world's most famous and popular cocktails, the Margarita, which we'll show you how to make later in this lecture.

Spirits for Today's Lecture
If you're tasting along with me in these lectures, you will need the following spirits:

- silver rum
- blanco tequila
- mezcal
- 100% agave tequila (same age as mezcal—preferably reposado)
- highland tequila (or a blend tequila)
- lowland Herradura tequila
- joven/gold tequila
- añejo tequila

Sounds like a lot, I know, but as I said in the first lecture. You don't have to buy every one all at once to get something out of this lecture.

I'll also show you how to make cocktails with tequila and mezcal at the end of this lecture with Gina Chersevani, who's won awards all over the country for her recipes. If you would like to make them with us, make sure you look at the list of ingredients in your course guidebook.

Toward the end of this lecture, we will make:

- a classic Margarita
- a Fancy Tequila Cocktail—that's actually the name of it; it's not just fancy! It's also called a Cadillac Margarita
- and a Mezcal Smash

History

Tequila belongs to the larger category of spirits called mezcal. We'll learn the difference between tequila and mezcal a bit later.

Like rum, tequila and mezcal are made with a plant material. Rum is made with sugarcane, but tequila and mezcal are made from the agave plant. Although it seems as if this plant might be a closer relation to a cactus, it's a flowering plant that's more related to the yucca plant (they actually share the same genus, which is often used in ornamental landscaping).

A Margarita is one of the world's most famous and most popular cocktails.

Historians say that around 100,000 B.C., a volcano erupted in the northwestern part of Mexico. The Aztecs have a legend that the lava set fire to some agave plants and filled the air with a sweet, smoky aroma.

When they investigated, they found sap oozing from the heart of these plants. The Aztecs drank this sap and experienced a feeling of euphoria. They also used all parts of the agave plant for things they

needed every day—fibers, paper, and footwear. This is why the ancient Aztecs believed that agave was a gift from the gods.

Later, they fermented the sap and made a kind of wine out of it that they called pulque, which allegedly was used to help ease the pain of being a human sacrifice. If that's true, I hope it was pretty strong stuff!

When the Spanish conquistadors came along in the 1500s, they didn't like pulque very much. But they eventually ran out of their European brandy, so they developed a process for distilling pulque into a spirit they called *vino mezcal*.

In the 1800s, production was booming around a town called Tequila in the state of Jalisco, and in the 1870s, Mexico exported its first tequila (actually mezcal from the region of Tequila).

I mentioned that rum and tequila have something in common because they're both made from plants—sugarcane and agave, respectively. But what is the taste difference?

Here I have a silver rum and a blanco tequila. Let's return to our four S's. Look at the color between these two. They look similar, don't they? They look kind of like water, don't they? They're both white spirits.

Now let's sniff. Sniffing the rum first, it almost smells sweet, something exotic or fruity. Now let's smell the white tequila. It smells light as well, but it's something very different. It's herbacious or something—some people call vegetal.

Now let's sip them. It's also very light on the palate, and you're noticing some of the flavors you got on the nose. Now let's taste the tequila. It's also very light, but you're going to notice how that herbacious, or vegetal, is going to persist on the palate. The unique flavor you get from the tequila is the flavor of the agave plant.

Let's take this experiment a bit further. Let's add some vodka to the comparison. Here is another clear, or "white," liquor, and it's also based on a plant. This is a potato vodka.

Let's look at it. Notice it's also clear like water. Let's sniff it. You're going to notice the vodka smells more neutral than the tequila or the rum. It doesn't have those fruity aromas in the rum or the herbacious you saw in the tequila.

And now go one step further—let's turn this into a simple mixed drink by adding a few cubes of ice and some orange juice. The vodka version is a Screwdriver. The rum and orange juice is called a Cuban Screwdriver or a Rum Screwdriver. The tequila version usually has grenadine syrup added to it and it's called a Tequila Sunrise, and you'll notice this version is a bit harsher than the one with rum or vodka.

Now let's sip it. You're going to notice the fruitiness of it, but you don't notice too much of the vodka because it's a little bit more neutral than the others.

If you taste each of these drinks and compare, you'll get a really good sense of how certain spirits interact with specific mixers. You can even try making this drink with scotch, which is called a Whiskey Orange. Do they all work well, or are some better than others? Try it and see for yourself.

You're probably wondering about the differences between tequila and mezcal. You might think of this comparison as similar to the differences between champagne and sparkling wine. If your bubbly's not made in the region of Champagne, it's called sparkling wine. Likewise, it's only tequila if it comes from the region of Jalisco and is made from blue agave.

In other words, all tequilas are mezcals—which is any spirit made from agave—but not all mezcals are tequilas.

Mezcal producers (not from Tequila) may also use younger agave, which yields a simpler spirit with more raw flavors and a stronger "heat" on the back palate.

For this reason, mezcal is considered to have a more masculine structure than tequila. But when you hear the term "masculine," it doesn't mean "for men only"; it is simply a descriptor to capture those elements that make the spirit seem bigger, fuller, or in this case, a bit more rugged and rough around the edges.

Harvest/Cooking

The part of the agave plant that can be used for tequila and mezcal is the root of the plant or the head, depending on how you look at it. This part is called the *piña*.

When the leaves are cut away from the root, the *piña* looks kind of like a large pineapple.

It generally takes 8–12 years for an agave plant to grow a *piña* that is large enough to use for tequila or mezcal production. In this age range, the *piña* weighs, on average, less than 200 pounds, but some can get as big as 300 pounds. The older the plant, the larger the *piña*. The larger the *piña*, the more tequila or mezcal that can be produced from it.

A producer can get about 1 liter of tequila/mezcal for every 15.4 pounds of *piña*. Thus, a 200-pound *piña* could yield almost 13 liters.

In the world of wine, producers speak of *terroir* in relation to grapes. *Terroir* is a French term that has no direct translation in English, but it refers to all the factors—the soil, the climate, the topography, and so on—that make the plant taste exactly the way it is and make the resulting wine taste the way it does. It also explains why one wine from rapevines in one region taste completely different than other vines a few miles or even yards away. Terroir also comes into play with tequila.

Tequila originated around the town of Tequila and can only be called tequila if it comes from blue agave grown in the region of Jalisco and some bordering states.

Here I have two tequilas. One is from the highlands and can actually be a blue, and the other is from the lowland region of Herradura. Let's take a look

at them. They both look very similar because they're both silver, or blancos. Sniff the Patrón first. Now the Herradura. You're going to notice a big difference between these two. The Patrón smells a bit fruitier and rounder while the Herradura smells a bit earthier and spicier.

Now we're going to taste. Tasting the Patrón, you roll it around your tongue. It feels smooth and round, and you're getting some of the similar things you got on the nose. It's a little bit fruitier, but you're still getting that flavor of the agave—that kind of herbaceous. From the lowlands, the Herradura is very earthy and spicier on the palate. There's a flavor that kind of lasts a long time.

The reason for the difference in aroma and taste is that in the highlands, the agave plants tend to be larger, slower maturing, and higher in sugar. These characteristics yield a fruitier and more delicate spirit.

Some regions in the lowlands, like Herrardura, age their agaves longer (10 or more years), yet the climate conditions allow for faster-maturing agaves, and the result is an earthier, more robust tequila.

The *jimadores*, or harvesters, cut the plant when the leaves develop a red coloration with red spots. Then, they a use long, sharp tool called a *coa* to cut off the 200 or more spiky leaves. This is not an easy task! The *jimadores* try to cut as close to the core as possible because the leaves can add quite a bit of bitterness to the resulting spirit.

Once harvested, the *piñas* are taken to the distillery for cooking, mashing, fermenting, and distillation.

Fermentation/Cooking

Just as we saw with the base material for rum and whiskey, you can't just crush up an agave, add yeast, and get something to distill. In order to get at the fermentable sugar, you have to cook the agave plant.

Inside the *piñas* are hard balls of carbohydrates that hydrolyze when heated. When the *piñas* arrive at the distillery, they are heated by one of two methods: In an oven (called a *horno*) or in a pressurized cooker (called an autoclave).

Producers that like using the traditional roasting style use the *hornos*, which are like slow-bake ovens. The *piñas* cook for 36–72 hours at about 60–80°C, or 140–176°F. This starts the process of softening the fibers.

The more modern method is to heat the *piñas* in an autoclave, or pressure cooker. This process is much faster (6 hours compared to the 36 to 72 hours of the *hornos*), and it can yield a more aggressive spirit, as well as smoky or burnt aromas.

Some mezcals are the result of baking the *piñas* slowly in a rock-lined pit oven over charcoal that is then layered with palm mats and earth. This process gives mezcal some of its strong, earthy, smoky flavors.

Whether in the *horno*, autoclave, or a pit, the *piñas*, now softened after cooking, rest for a couple days so that the liquid fermentable sugar—called *aguamiel*—can be collected as it flows from the pulp.

The *piñas* are beaten with mallets and placed on a giant grinding wheel (or a mechanical shredder). The *piñas* are chopped up, minced, and strained to remove the *aguamiel*.

The *aguamiel* is then put in large vats (either wooden or stainless steel) to create a wort. Remember, we heard this term in our whiskey lecture. Wort is the liquid that's intended for fermentation before distillation. After distillation, it's called a wash; before fermentation, it's called wort.

There are two basic categories of tequila: 100 percent agave and mixtos. Mixtos are those tequilas that are made with at least 51 percent agave; the other 49 percent can be from other sugars, such as molasses (as we saw with rum) or corn-based sugar syrup. Mixtos are not as strong in their agave flavors and are generally less expensive.

After the fermentable sugars are extracted, yeast is added and fermentation begins. The length of the fermentation influences the final flavor. Generally, commercial yeasts can ferment the wort in a few days. However, if wild or indigenous yeast is used, the fermentation can take longer—sometimes 10

to 12 days. The longer the fermentation, the more complex the flavors that are produced.

Distillation
Once the wash is produced, it can be distilled. Most 100% agave tequilas are pot stilled. The first time the wash goes through the pot still, the distillate gets to about 25–30 percent abv.

The heads and tails are recycled with the second "batch," and the second run gets the distillate to about 55 percent abv.

Mezcal and mixto tequilas are distilled only once (generally in a column still), while tequila is distilled two or three times. Just as with other spirits, the heads and tails are removed, the heart is collected, and then it's ready for aging.

The distillation process generally results in a difference in the congeners or flavor compounds. While the 100% agave tequila has some very complex and refined aromas, the mezcals and mixtos may have more congeners that are a bit rough around the edges. Let's see what impact this has on flavor.

Here I have a mezcal and a 100% agave tequila. Let's take a look at these. They look sort of similar in color, and they should if they're about the same age—but this one has a little bit of caramel coloring in it.

Now, smell and taste the Patrón first. It's 100% agave. You actually taste some of that agave plant—the herbaceous. It's very smooth and round. You've got some very fruity taste and textures in there.

Now we're going to taste the mezcal. Already on the nose, you can smell it's very earthy and very spicy. On the palate, you definitely get those smoky kind of burnt aromas. It's a bit more robust. Remember we talked about the rock-lined pit ovens fired by charcoal? That process contributes to these aromas for the mezcal.

Do you notice the taste difference? There is a stronger heat on the back palate of the mezcal than the tequila, which is a bit smoother and rounder.

Wehn you're savoring it (our last S), which do you think seems to last a little bit longer? I think you are going to find that the 100% agave tequila does, and you will notice that the flavors of the mezcal are, again, a bit more earthy, rough, and rugged. The other factors plus distillation contribute to these congeners that come through in the finish.

Aging

You can look at the label on a bottle of tequila to learn how old it is and how it was aged. You will see some similarities here to rums from the former Spanish colonies, as we discussed in a previous lecture. Let's explore some common terms.

- Blanco, meaning white or silver. These are tequilas that are not aged. They go straight into the bottle after distillation or they may rest in stainless steel tanks. The point is: They don't see oak.

- Joven, gold, suave, or abocado—this is the next level. *Joven* means "young" in Spanish, and these terms let you know that the tequila is unaged. However, you will notice that these tequilas have some color to them.

- Reposado. This is the next level; this is the first level of tequila that spends some time in oak. Some are held in very large oak vats like 30,000 liters, while others see charred American oak barrels. Whichever oak vessel is used, the spirit ages inside for up to 1 year.

- Añejo. *Añejo* means "mature," and these tequilas spend a minimum of 12 months in barrel, although some age much longer. The barrel size is limited to only 600 liters. The smaller the barrel, the more influence the oak has on the spirit because of the surface-area-to-spirit ratio.

- Extra Añejo. This term was introduced at the end of 2005. It refers to a tequila that sees a minimum of 4 years in wooden barrels with the same size limit as añejo, which is 600 liters.

What impact does all this have on the taste of the spirit? Here I have a joven/gold tequila and an añejo. Let's take a look at these.

If you notice the color of these two spirits, they kind of look the same—they both have a gold tinge to them.

When a spirit ages in barrel, it gains color. It goes from pale amber to deep gold and sometimes to tawny brown. Both of these spirits have gold tones to them, but while the añejo was aged in oak, the joven wasn't. So where then does the color in the joven come from? Generally speaking, it's often caramel coloring. While a gold color can be an indication of age, it isn't always. The spirit you're looking at actually could be a joven.

Let's sniff both of these. Sniff first the joven, the gold tequila, then the añejo. you're going to find that there's a huge difference between these two and that's not by accident. As the añejo ages in oak, it pulls the flavors from the barrel itself, such as componds like lactones, vanillin, and other flavor compounds. This adds layers of flavors—what we call "complexity."

If you taste one and then the other, you will notice that the joven has fewer layers of flavors. The reason for this is that the joven hasn't seen any oak. Given the number of flavors the añejo has over the joven, we would call the añejo more complex and the joven simpler. Remember that complexity is one of the parameters of quality.

Now, we're going to sip. Sip the joven first and then the añejo. You may notice that the attack on the joven is a bit more aggressive than the añejo, or you may find the añejo smoother and mellower. Barrels do have flavors that the spirit extracts from the oak, but there is another factor that affects the spirit that also stems from the barrel. Oak is a porous material that allows an oxygen exchange. As oxygen interacts with the spirit itself, it "smoothes" some of those rough edges, mellowing the spirit.

Evaporation also takes place, and this makes a difference in concentration. First, as water is lost because of evaporation, the ratio of water to alcohol decreases, so the alcohol can sometimes become more concentrated.

Second, evaporation also concentrates the flavor compounds and can increase the weight, or body, of the spirit. You may notice that the añejo in this case is a bit fuller on the palate than the joven.

Now when you savor these, the flavor of the añejo lasts a lot longer on the palate. The amount of time the flavor lasts on the palate is called "length." Length is also a quality parameter, just like complexity, for spirits (as it is for wine). The longer the length, in general, the higher the quality of the spirit.

The añejo has longer length than the joven. This is likely partially due to the quality of the base materials (the agave), but it also stems from the number of flavors extracted and the concentration developed because of how it was aged.

To sum up what we've learned here: Oak increases the number of flavors perceived on the palate, concentrates the flavors, and elongates the finish.

Bottling

After aging, the tequilas or mezcals are bottled. And what about the "worm" we've all heard so much about? It's a myth that tequila has a worm in the bottom of the bottle. However, a mezcal, particularly one from Oaxaca, may have a caterpillar larva—not a worm—dropped in it.

Cocktails

Don't worry, we are not going to taste the larva—but feel free to try it on your own! Instead, we are going to go straight to cocktails with Gina Chersevani. She'll be making a classic Margarita; a Fancy Tequila Cocktail, also known as a Cadillac Margarita; and a Mezcal Smash, which is similar in style to an Old Fashioned.

Notice when you taste these drinks that the Mezcal really adds a smoky flavor that is a great twist on the classic Old Fashioned.

Recipes

Classic Margarita
Mixologist: Gina Chersevani, PS7

For this recipe, you'll need:

- 1.5 oz tequila (silver or slightly aged reposado)
- 1 oz Cointreau
- ¾ oz fresh lime juice
- lime wheel or wedge for garnish

Before combining the ingredients, salt the rim of a chilled cocktail glass. Take a piece of lime and rub the juice part on the outside rim of the glass, then dip the outside of the rim into a plate/saucer of coarse salt.

To make the cocktail, combine the ingredients in a mixing glass with ice. Shake well and strain into the salted cocktail glass and garnish with lime (wheel or wedge) or twisted peel.

Fancy Tequila Cocktail/Cadillac Cocktail
Mixologist: Gina Chersevani, PS7

For this recipe, you'll need:

- 1 oz tequila
- 1 oz Grand Marnier
- 1 ½ oz fresh orange juice
- ¼ oz fresh lime juice
- orange peel for garnish

Shake all ingredients and strain into a chilled Martini glass. Garnish with a flamed orange peel.

Mezcal Smash
Mixologist: Gina Chersevani, PS7

For this recipe, you'll need:

- 1 wheel each of lemon, lime, orange, smashed into bottom of tumbler
- 1 oz simple syrup (can make in microwave or on stove: 1 c. water: 1/2 c. sugar; boil 5 min.)
- 3 dashes Gary Regans Orange Bitters #6
- 2 oz 100% Tobala Del Maguel
- Fruit for garnish

Muddle fruit. Add simple syrup, mescal, bitters, and one large ice cube. Stir for 30 rotations around the edge of the glass. Garnish with fruit.

Next Up

In the next lecture, we'll be talking about cognac and brandy. If you want to taste with us, you'll need the following:

- whiskey (preferably scotch)
- cognac VS
- cognac VSOP
- cognac XO
- armagnac
- calvados

Cognac and brandy are often associated with wealth, and we'll learn why these spirits can be expensive. But we'll also see that you don't have to be rich to enjoy cognac or brandy. Until next time, cheers!

Brandy—The Luxury Spirit

Lecture 5

DRINKS FOR THIS LECTURE:

- whiskey (preferably scotch)
- cognac VS
- cognac VSOP
- cognac XO
- armagnac
- calvados

When people hear the word "brandy," they usually imagine an obviously wealthy, heavyset gentleman in a smoking jacket, holding a snifter in one hand and a cigar in the other, standing in front of a roaring fire. It's not true, however, that you have to be rich to enjoy brandy. In this lecture, we'll learn how to enjoy and appreciate brandies straight and how to blend them into cocktails. We'll also look at the distillation process for various types of brandies and explain the terms used to differentiate brandies of varying ages.

What Is Brandy?

- Brandy is unlike other spirits we've discussed in that it gets its start, not from an agricultural base, such as grains or potatoes, but from wine.

- A test using just two of the four S's (seeing and sniffing) highlights the difference between scotch and cognac. Both are brown spirits, because they're aged in oak, but the cognac's aromas are more similar to fruit, while the scotch smells like cereal or grain or, with a peated Scotch, smoke.

- The term "brandy" may come from the Dutch word *brandewijn*, meaning "burned wine," or from the Piedmontese word *branda*.

Where Is Brandy Made?

- Brandies are made in countries around the world and from almost every fruit imaginable, including apples and raspberries, but the most famous brandies are made from grapes in the regions of Cognac and Armagnac in France.

- Cognac is on the western side of France, north of Bordeaux. Ninety-five percent of the vineyards there are planted with a white grape variety used in making cognac called Ugni Blanc.

- Cognac is divided into six geographic zones, each one known for its ***terroir*** characteristics. *Terroir* is a French term for the factors that influence the taste of a wine from a specific location, including the soil, topography, and climate.

- The two highest-quality regions in Cognac are Grande Champagne and Petite Champagne.

Producing Cognac from Wine

- Part of the reason that some cognac is so expensive can be found in the production process. It takes a little more than 2 pounds of grapes to make a bottle of wine, but it takes about 25 pounds of grapes to make a liter of cognac.

- To make cognac, the grapes are first picked, pressed, and fermented into a dry, light, crisp wine. The grapes are harvested in the fall in Cognac, but all cognac

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Cognac is often served in a snifter, which allows the aromas to easily reach the nose.

must be distilled by March 31st following the harvest to ensure that the wine is still fresh.

- During fermentation, **congeners** are created. These are organic compounds, such as ketones, esters, and aldehydes, that occur as a byproduct of fermentation and provide flavor and aroma.

- The wine for making cognac is about 8–10 percent alcohol and is called a wash. Wash is any alcoholic liquid resulting from fermentation that is destined for distillation.

Distillation

- The type of still used for cognac is a **Charentais still**. It's technically a pot still because the still has a pot (a preheater) where the wine boils.

- At 173° F, the wine boils and releases alcohol, congeners, and flavor molecules, which are collected in a copper helmet.

- These vapors then travel through a neck, the height of which affects the character of the distillate. The taller the neck, the lighter the character, because only the most volatile and lightest compounds can reach that high.

- Next, the distillate molecules travel through a condenser, a coil that is surrounded by cool water. The drop in temperature makes all the compounds condense into a liquid.

- After this first pass, the spirit is added back to the still for more passes before it reaches the right alcohol level. After each pass, the distillate gets higher in alcohol and lower in congeners.

- The first molecules to boil in this process are called the "heads"; the last are called the "tails." What's in the middle is called the "heart," and this is where the best combination of alcohol, congeners, and flavor is found.

- Knowing how much of the heads and tails to "cut" is an art. Once the cut is made, the ***eau de vie*** ("water of life") is ready to be placed into barrels.

Aging

- Cognac is aged in barrels made of French oak. Just as with wine, the origin of the oak, the age of the barrels, and the length of time in oak all have a significant impact on flavor.

- In order to be called cognac, by law, the youngest *eau de vie* in the blend must be a minimum of 2 years old.

- Unlike wine, cognac is a blend of vintages. The master distiller checks how each barrel from each vintage is progressing and makes a judgment call on which barrels to blend with which.

- In VS (very special) cognac, the youngest vintage in the blend is at least 2 years old; in VSOP (very special old pale), it is at least 4 years old; in XO (extra old) or Napoleon, it is at least 6 years old; and in cognac that is *hors d'age* ("beyond age"), the youngest blend is more than 11 years old.

- A comparison of a VS and an XO cognac shows that the XO is darker in color and has more toffee- or caramel-like notes, while the VS is lighter and smells more like fresh orange peels.

Armagnac

- South of Cognac is the region of Armagnac, where the brandy of that name is made. Like cognac, Armagnac is made with white grapes, but the distillation process is a bit different.

Armagnac is similar to cognac, but it is made in a different region of France.

- Many Armagnacs are made with a column still. Here, there are two chambers, one with a preheater and condenser, and the other with a heating chamber and column separated by perforated plates.

- The wine (or wash) is put into the base of the preheater and heated to 85 to 92° C. It then rises, passing into the heating chamber, where it vaporizes and travels through the perforated plates as a way of purifying it.

- With this system, the liquid goes through only once. After the vapor travels through the plates, it goes into the coil in the condenser, where it is cooled and comes out as *eau de vie*.

- Armagnac is generally richer and slightly fruiter than cognac, although it's a bit more rustic and lacks the refinement and finesse of cognac.

- The aging for Armagnac is also slightly different than that for cognac. Armagnac's VS is 1 year, VSOP is 4 years, and XO is 5 years.

Other Brandies and Fruit Spirits

- In Spain, brandy is aged in the **solera system**, in which brandies of different ages are blended in a tier arrangement of barrels.

- South American brandy is called **pisco**. It is made from more aromatic grape varieties than the fairly neutral Ugni Blanc grape; thus, piscos are known for their rich, aromatic character.

Important Terms

Charentais still: A type of pot still used in making cognac.

eau de vie: Literally, "water of life"; a French term for distillate.

marc: A French brandy made from pomace.

pisco: South American brandy known for its rich, aromatic character.

solera system: A system of aging brandy used in Spain, in which brandies of different ages are blended in a tier arrangement of barrels.

terroir: A French term for the factors that influence the taste of a wine from a specific location, including the soil, topography, and climate.

Brandy—The Luxury Spirit

Lecture 5—Transcript

When people hear the word "brandy," they usually imagine a heavyset gentleman in a smoking jacket, holding a snifter in one hand and a cigar in the other, standing in front of a roaring fire. Maybe that's where the idea comes from that you have to be rich to enjoy brandy.

Or maybe it comes from hearing stories like the one about Henri IV Dudognon Heritage Cognac. It comes in a crystal bottle that's been dipped in 24K yellow gold and sterling platinum. It's covered with 6,500 brilliant-cut diamonds, and it's aged for 100 years. Oh, and it costs about $2 million a bottle.

Brandy has a great reputation for a reason, though, and in this lecture, we'll see why. But don't worry; I'm not going to ask you to spend millions of dollars on a few bottles. We can find some very reasonable deals on a good brandy.

Spirits for Today's Lecture
In this lecture, I'll be talking about the following:

- whiskey
- cognac VS
- cognac VSOP
- cognac XO
- Armagnac
- Calvados

If you're participating, you're going to learn how to enjoy and appreciate brandies straight and how to blend them successfully with something else. The better the brandy, the less inclined you'll be to mix it, so having some cocktail options can help ease your budget while you develop your taste for these fine spirits.

Cocktails come in various types of glasses, depending on the ingredients with which they are made.

Cocktails for Today's Lecture

In this lecture, we will create three cocktails—two classic recipes, a Brandy Alexander and a Sidecar, and then one that's unusual but delicious, the Normandy. That one's kind of fun because it breaks the usual rules of what mixes well with cognac. We'll be working with yet another award-winning mixologist, John Hogan, to show us his tips for making these cocktails.

What Is Brandy?

If you've watched the other lectures in this course, you know that spirits are made from some sort of agricultural base. Brandy is unusual in that it gets its start from another alcohol, wine.

The wine could have been made with grapes or other fruit, but the point is, brandy's based on fruit, whereas the other spirits have been based on cereals, grains, potatoes, or plants, as in the case of sugarcane and rum. This has such an impact on flavor. You can tell it's made from fruit. But don't take my word for it, do this test yourself.

Here I have two snifters, also called brandy balloons. They're filled with two different spirits: one scotch, the other one cognac. You may want to try this at home, but when you do, just make sure you know which one is which.

Let's do just two of the four S's of tasting these spirits: see and sniff. If you take notice of the color of these two, you're going to notice that they kind of look similar. They're both considered brown spirits. They're brown in color because they're aged in oak.

Now sniff it—remember, don't swirl and take a big sniff, as you do with wine. Even though the cognac is based on wine, it's not the same product at all anymore. You could numb your nose by breathing too deeply and then not smell anything after that. Also remember to keep your mouth open when you sniff.

Do you notice anything different about these two spirits? You don't even have to taste them to know they're different. You may notice that the cognac has aromas more toward the fruit end of the spectrum (for example, like dried orange peels), while the scotch smells like cereal or grain, or smoke if you have a peated scotch. Smell them again and see if you can notice these aromas now that I've mentioned them to you.

It's quite apparent that their aromas are reminiscent of the base material used to make the distillate or spirit. Cognac's base materials are fruit (grapes), while whiskey, and in this case, scotch, comes from grain (barley and other grains).

You see, only a few minutes into the lecture, and you can already tell a brandy from a whiskey.

How Brandy Is Made

Many people think that the term "brandy" comes from the Dutch word *brandewijn*, or "burned wine." That doesn't sound like something that would turn out to be one of the world's premier drinks, does it? But in the 16th century, "burnt wine" was how the Dutch traders described this alcoholic beverage in their travels. The Italians disagree, by the way. They claim that the term "brandy" came from the Piedmontese word *branda*.

Wherever the term "brandy" comes from, brandies are here to stay and are widespread. Perry Luntz, author of *Whiskey and Spirits for Dummies*, said it best: "Put a map of the world on the wall, toss a dart, and no matter where it lands, you've probably hit a country that makes brandy."

Brandies are made from all kinds of fruit, everything from apples to raspberries, but the most famous brandies are made from grapes in the regions of Cognac and Armagnac in France.

Cognac

The region of Cognac is on the western side of France, about a two-hour drive north of Bordeaux. In the 1500s, this region made wine. This was around the time of Henry II of France, who was known for burning Protestant Huguenots at the stake or cutting out their tongues for heresy. It's no wonder people living in this time needed a stiff drink! It was about the mid-1700s when folks began shifting their drinking habits from wine to distilled spirits.

The story goes that during the great age of exploration and trade, sailors "burnt" or boiled their wine to reduce the space it took up on their ship's hold; later, they added water to it. At some point, people noticed that the wine processed this way was actually quite good. Then they began deliberately doing what we call "double distilling" their wines.

We'll get to this process in a minute, but first, let's learn about the wine that brandy comes from.

Wine lovers talk a lot about grape varieties, and cognac, the king (or queen?) of brandy is made from white grapes. Ninety-five percent of the vineyards in Cognac are planted with a white grape variety called Ugni Blanc (though in Italy, Ugni Blanc is called Trebbiano).

Ugni Blanc is perfect for brandy production because of its high acidity. This provides the wine more protection against microbes during the distillation process, because the wines generally don't have sulfur dioxide added.

Cognac is mostly made with Ugni Blanc, but it may also include other white grape varieties. Folle Blanche is one example, which might be used to get more floral notes, while Colombard is higher in acidity and highly aromatic.

Cognac is divided into six geographic zones, each one known for its terroir characteristics. Terroir is a French term (with no true English translation) for the factors that influence the taste of a wine from a specific location, including the soil, topography, inclination or slope of the vineyard, the sun, rainfall, and other weather considerations.

These factors combine to make the wine taste the way it does, and each region has its own characteristics. That's why the geographic origin of brandy is so important. And it's these terroir characteristics get transferred over through the distillation process.

The two best quality regions (or crus) in Cognac are Grande Champagne and Petite Champagne. Before you ask, Grande Champagne and Petite Champagne have no relation to the Champagne region known for making bubbly. All three wine regions are famous for grapes, and they all have chalky soil, but their name actually comes from the French word for "countryside," *campagne*. Grande Champagne and Petite Champagne are known for very floral notes and for long-aging cognacs.

Have you ever wondered why some cognac is so expensive? Part of the explanation is supply and demand, but part of it is the production process. It takes approximately 11.25 kilograms (or about 25 pounds) of grapes to make one liter of cognac. You may think, so what? Well, to put these numbers into perspective, it takes 1 kilogram of grapes (or 2.2 pounds) to make a bottle of wine. It takes more than 10 times the amount of grapes to make cognac than wine.

Distillation

The type of still used for cognac is a pot still called a Charentais still. This is a single-batch system, and it's called a pot still because it has a pot where the wine boils.

Traditionally, wine was placed in a liquid preheater. It's in this pot that the wine boils and the distillation process begins. The wine heats up, and once it goes past 173° F, the alcohol is boiling. At this stage, the liquid is releasing alcohol, congeners, and flavor molecules into the air, where they're collected in the copper helmet above.

The height of this neck (sometimes called the Swan Neck) affects the character of the distillate. The taller the neck, the lighter the character, because only the most volatile and lightest compounds can reach that high. The shorter the neck, the heavier the character.

All of these distillate molecules travel up the swan neck, through the original liquid preheater (because those hot molecules are what actually preheats the wine), and to the condenser.

The heated distillate molecules travel through a coil. The outside of this coil is surrounded by cool water. This forces the temperature to drop, which makes all the compounds in the coil condense from a gas into a liquid, which is then collected.

This first "pass" through the pot still takes about 9 hours and yields a spirit that is about 26–29 percent abv (alcohol by volume). Twenty-five hectoliters of wine go in (or about 660 gallons), but only 9 hectoliters (or 238 gallons) of distillate comes out, (roughly a third). It's called a batch system because after the first pass or batch, the spirit needs to be added back to the still for more passes before it is at the right alcohol level and ready to be placed into barrels.

The distillate from the first batch is placed back into the still for a second pass. This takes about 14 hours. After each pass, the distillate gets higher in alcohol and lower in congeners.

You're probably beginning to understand why cognac is so expensive. It takes more grapes, it's from a small region, and the process to make it yields only a fraction of output compared to the input. Let's go back to the process.

Not all of the distillate is placed into barrels; it must be "cut." The first molecules and compounds to boil are the most volatile and condense to become a liquid first. Some of these compounds are very light and fruity (like pineapple or pear drop), but some are actually harmful for us to consume. Because they come out first, distillers call them the "heads."

The last molecules to boil and go through the condenser (toward the end of that first 9-hour pass) are the heaviest components and include some fusel oils. These are the byproduct alcohols from the process and are called the "tails."

What's in the middle is called the "heart," and this is where the best combination of alcohol, congeners, and flavor is found.

Knowing how much of the heads and tails to take away is an art and significantly influences the taste of the resulting cognac. Once the "cut" is made (at about 58–60 percent abv), the eau de vie is then ready to be placed into barrels. (Eau de vie is a French term for distillate, but it literally means "water of life.")

Aging

The eau de vie looks clear (kind of like water), so how do we get that rich color that you see in cognac, Armagnac, and other brandies? This color comes from the barrels and barrel aging.

With cognac, the barrels are made of French oak. Just as with wine, the origin of the oak, the age of the barrels, and the length of time in oak all have a significant impact on flavor.

Just because it's eau de vie from the region of Cognac doesn't make it cognac. In order to be called cognac, by law, the youngest eau de vie in the blend must be aged a minimum of two years in barrel.

Unlike wine, cognac is a blend of vintages. The master distiller checks how each barrel from each vintage is progressing and makes a judgment call on which barrels to blend with which. He or she may blend a 5-year-old cognac with a 15-year-old cognac to get the intended flavors and texture just right.

On bottles of cognac, you will see various terms, such as VS, VSOP, XO, Napoleon, and other terms. What do these terms mean? Let's find out.

Term	Meaning	Minimum Age of Youngest Cognac in the Blend
VS	Very Special	2 years
VSOP	Very Special Old Pale	4 years
XO/Napoleon	Extra Old	6 years

VS means "very special," and the oldest cognac in that blend is two years. VSOP stands for "very special old pale," and the minimum age for the cognac in this bottle is four years. For XO and Napoleon, it's six years.

Let's compare two cognacs, a VS and an XO. As I said earlier, you can also use a VSOP for this. Here I have them in brandy balloons, also called snifters. The large bowl allows the aromas to be released and be captured as it narrows toward the top. Many people swirl the brandy in snifters because they think this is going to release more aromas. It does, but the alcohol notes are more volatile, and they get released first. There is no need to swirl; the components are volatile enough, and you'll probably smell more alcohol.

You may have also heard the myth that you are supposed to warm up the cognac in your hands. You don't have to do that, but if you do, the heat from your hands warms up the cognac and makes the alcohol aromas stand out even more. And as I said before, don't swirl and sniff deeply, as you would with wine. There is a real risk that you could anesthetize your nose.

Now let's see. Do you notice a color difference between these two cognacs? The darker one is the XO. The longer a spirit is aged in wood, the richer the colors get.

Now let's take a sniff. You're going to notice a big difference between these two. If you have a VS and an XO in front of you, I encourage you to smell one and then the other. Comparing and contrasting really helps you identify differences in tasting spirits.

The VS smells more like fresh orange peels compared to some of the more dried ones in the XO. Some people say that the VS, particularly from Grande Champagne, has floral notes, such as jasmine. You may notice that there's more toffee- or caramel-like in the XO. As spirits age, they take on more of these characteristics from the oak.

Let's take a sip. Make sure you roll it around your tongue. If this is your first sip, it may be a shock to your system, so let your palate calibrate for a few seconds and then take another sip of the same cognac. You will notice that you taste more.

Now let's taste the second one. One tastes lighter bodied than the other. You'll probably notice that the XO, which has been aged for a longer period of time, tastes more dense and concentrated.

Now savor. Unlike with wine, savoring a spirit like cognac may be more crucial than the initial impression when you sip (also called "the attack"). High-quality spirits have a long length, meaning that the length of time the flavor lasts on your palate is quite long. It's these lingering flavors that really show the quality of a cognac and spirit in general.

Armagnac

Cognac is probably the most famous (and luxurious) of brandies, but it's certainly not the only one. About three hours south of Cognac (and a little east) is the region of Armagnac, where they make the handcrafted and delicious brandy of the same name. It was first produced about a century before cognac, and supposedly, it was originally sold as a magical elixir with healing properties.

It wasn't distributed as much as cognac because the region of Armagnac is landlocked and Cognac has a river going through it.

Like cognac, armagnac is made with white grape varieties, including Ugni Blanc. However, the distillation process is a bit different, and of course, the region's climate, geography, topography, and soil (all these influences are called terroir), have a significant impact on the taste.

Let's look at this by comparing a cognac and an armagnac of the same age. First, let's try this test—it's the same one we used in the whiskey lecture.

Dab a little armagnac in the palm of one hand. Now rub your hands together and smell your hands. Your body heat will evaporate the alcohol and leave only the essential aromas. Smell your hands up close. You're going to notice all different types of aromas. What do you notice?

Distillation

Now that we've compared cognac and armagnac, let's learn how distillation affects the taste. We talked about cognac's pot still/batch system. One reason that armagnacs taste different is that many of them are made with a column still, which is a bit more efficient. Here's how it works.There are two chambers, one with a preheater and condenser; the other with a heating chamber and column separated by perforated plates.

The wine (or wash) is put into the base of the preheater and heated to 85 to 92° C. It then rises, passing into the heating chamber, where it vaporizes and travels through the perforated plates. It travels through these plates (sometimes up to 15 or 20 of them) as a way of rectifying or purifying it.

With the cognac pot still system, you had to send the batch of spirit through a few times to get to 60 percent abv. With this system (the armagnac system), the liquid only goes through once. After the vapor travels through the plates, it goes into the coil in the condenser, where it is cooled to a liquid and out comes eau de vie.

Let's taste the difference. Taste the cognac. You're going to roll it around your tongue and notice those dried orange peels. It's a little bit floral. When you taste the armagnac, you're going to notice a little bit more of an earthy type of flavor to it. They're both quite refined, but you're going to notice a little bit more of an edge to the armagnac.

What did you notice? These look just about alike in color, but the differences in distillation, grape varieties, and terroir show up in the flavor. You could probably tell that the armagnac is generally richer and slightly fruitier than the cognac. On the other hand, armagnacs are a bit more rustic and lack the refinement and finesse of cognac.

The aging for armagnac is slightly different than that for cognac, and unfortunately, I have no secret ways of remembering the terms. Armagnac's VS is one year to cognac's two; VSOP is also four years (just like cognac); and XO is five years, as opposed to the six in cognac. The older, the more concentrated and dense, but remember, once it's out of the cask and in the bottle, it's done aging. You can store it standing up, not on its side like with wine, and it should keep for a very, very long time.

Non-grape Brandies

There are other French brandies made from grapes (for example, in the famous wine regions of Champagne, Bordeaux, and Burgundy), and each is required to be aged a minimum of one year in wood.

I said at the beginning of the lecture that brandy isn't always made from grapes. The French brandy called Calvados is made from apples, and it takes more than 30 varieties of apples to create its wonderful flavor. The same type of still is used as we see with cognac, the Charentais pot still. There are similar aging requirements here, with such terms as VSOP and XO that mimic those used in cognac.

If you've got some there, take a sniff. It's amazing how much it smells like fresh apples. I recommend you compare it with the cognac so you get a good sense of the impact of different fruits.

Other Brandies

France isn't the only area with good brandies, of course. In fact, southern Spain may have created the first distilled spirit in Europe (made about 900 A.D., when distillation was introduced by the Moors in the creation of perfumes).

In Spain, we see brandies in Jerez in the south and the Penedès to the north, made using both pot stills and column stills, but by law, the final blend must contain a minimum of 50 percent spirit. The Spanish also age their brandies in a unique system called the solera system.

The solera is a system for blending. Think of it as a bunch of barrels tiered on levels. Each barrel contains a brandy of a different age. Let's say we have three levels: Tier 1, Tier 2, and Tier 3. When a new tier comes in (Tier 1), up to 33 percent of its contents can be removed at any one time to be placed in another tier (say, Tier 2). However, some of the brandy from Tier 2 then moves down to Tier 3. The bottom tier is called the solera and is the final blend.

The interesting thing about the solera system is that because the entire barrel is never truly emptied (it's a fractional removal system), there's always a portion of very, very old brandy in the bottom tier.

South America has its brandy, as well, called pisco. Early Spanish settlers used more aromatic grape varieties than the fairly neutral Ugni Blanc in France, so piscos are known for their perfume and rich, aromatic character. Peruvian pisco is considered by many to be the purest and strongest because it's stored in casks that are lined with paraffin, instead of aging in oak casks.

Cocktails with Brandy

We've tasted brandies neat, so let's talk about cocktails using brandy.

Because brandy is aged in oak and takes on some of its spicy aromas (brown spices, such as nutmeg or clove), it tends to add a spicy element to cocktails that makes them richer. Let's go see John Hogan so he can demonstrate how to make a Brandy Alexander, a Sidecar, and a Normandy.

Recipes

Brandy Alexander
Mixologist: John Hogan, Level: A Small Plates Lounge; filmed at Church and State

For this recipe, you'll need:

- 1 oz brandy
- 1 oz dark crème de cacao
- 2 oz heavy cream
- nutmeg for garnish

Pour all the ingredients with ice into a cocktail shaker and shake for a few seconds. Strain into a small cocktail glass. Garnish with a pinch of nutmeg.

Sidecar
Mixologist: John Hogan, Level: A Small Plates Lounge; filmed at Church and State

For this recipe, you'll need:

- ¾ oz lemon juice
- 1 oz cognac
- ¼–½ oz simple syrup (not classic but adds sweetness)
- 1 oz Cointreau
- orange peel for garnish

Pour all the ingredients with ice into a cocktail shaker and shake for a few seconds. Strain into an iced Old-Fashioned glass. Garnish with an orange peel or serve in a small, chilled cocktail glass with a sugared rim. Note: If you like your cocktails sweeter, add more simple syrup.

The Normandy
Mixologist: John Hogan, Level: A Small Plates Lounge; filmed at Church and State

For this recipe, you'll need:

- 9 fresh cranberries
- 4 thin slices green apple
- 1 heaping teaspoon dark brown sugar
- ¼ oz lemon juice
- ¼ oz brown sugar simple syrup
- 1 ½ oz good quality Calvados

Muddle 6 cranberries, 2 apple slices, and the brown sugar in a cocktail shaker. Add the lemon juice, simple syrup, Calvados, and a few ice cubes. Cover, shake well, and strain into a rocks glass filled with ice. Top with remaining 2 apple slices and 3 cranberries on a skewer.

Up Next
In the next lecture, we'll be talking about liqueurs. If you want to taste with us, you'll need the following:

- amaretto
- Drambuie
- Cointreau
- generic triple sec
- Grand Marnier
- absinthe or absente
- chartreuse

Liqueurs, with their huge variety of flavors, are the widest ranging category of spirits. Some are sweet; some are spicy; others are nutty, creamy, earthy, floral, or even candied. The flavors seem limitless.

While many are still enjoyed as an aperitif or after meals, liqueurs are the endless spice rack that many bartenders and mixologists use.

Until next time, cheers!

Liqueurs and Cordials—The Flavored Spirits

Lecture 6

DRINKS FOR THIS LECTURE:

- amaretto
- Drambuie
- Cointreau
- generic triple sec
- Grand Marnier
- absinthe or absente
- chartreuse

Liqueurs are the sweet side to spirits. Liqueurs are related to flavored spirits, but they meet a required minimum level of sugar. Of all the spirits we've explored, liqueurs have the widest range of flavors; they can be flavored with fruit, herbs, spices, seeds, nuts, cream, coffee, and other ingredients. In this lecture, we'll look at methods of flavoring and compare the effects of flavoring on three types of orange liqueur. We'll also debunk the myths associated with the mysterious green liqueur absinthe and with Angostura bitters.

Liqueurs versus Cordials

- Liqueurs are closely related to flavored spirits, but they meet a required minimum sugar level. Depending on the type of liqueur, the sugar content might be as high as 40 percent.

- Historically, cordials were sweet spirits that were fruit based and liqueurs were spirits that were herb based, but these days, the words are used interchangeably.

- Because liqueurs can be flavored with almost anything—fruits, herbs, spices, nuts, and so on—no other category of spirits has such a wide range of colors and flavors.

History of Liqueurs

- Today, we think of liqueurs as an after-dinner drink, but in the Middle Ages, monks and others would steep herbs in alcohol to produce medicines. Some of the liqueurs created by these monks are still in production today.

- The Italians have been making liqueurs and bitters for centuries; such Italian liqueurs as amaretto and sambuca remain quite popular.

Base Spirits

- Liqueurs come in all kinds of flavors, from artichoke to melon to hazelnut.

- Distillers choose ingredients and processing methods based on desired flavor, availability of flavoring materials, and of course, economic considerations.

- As we've seen in other lectures, the base spirit has an impact on the final flavor. For a fruit liqueur, a distiller may choose an *eau de vie* or a brandy base distilled from fermented fruits.

- The flavors that are added to the base spirit should be complementary. For example, with cream liqueurs, the base should be neutral, such as vodka or whiskey, to prevent any strange flavor interactions.

- Financial considerations also come into play in choosing base spirits. Using cognac as the base, as in Grand Marnier, is expensive, and a distiller may prefer to save money by using a beet sugar or wheat or corn vodka base.

Adding Flavor

- The goal in flavoring is to extract the most intense flavors and aromas from the flavoring ingredients, using one of several methods of extraction.

- The cheapest method of flavor extraction is **compounding**. This is a simple process of blending essences and concentrates into a base spirit.

- Maceration is the process that is most gentle on the flavoring material, so it's generally reserved for those flavoring agents that will change flavor or structure with heat, such as delicate fruits. These are soaked in high-proof alcohol until their character is absorbed by the alcohol.

Liqueurs are typically consumed as after-dinner drinks and are often sweet.

- **Infusion** or **digestion** is a type of maceration that uses heat. It's usually reserved for dried leaves, plants, and herbs. It works under the same concept as steeping a teabag in hot water.

- **Percolation** is another flavor extraction method that uses heat. The spirit is put in the bottom of a tank and repeatedly pumped through the flavoring ingredients, which are at the top. This more aggressive method is required for those flavors that are difficult to extract from their sources, such as vanilla or cocoa beans or some botanicals.

- The final extraction method is distillation. This process is similar to what we saw in the production of gin. Botanicals are dried and placed in a pot still; then, base spirit is added to the still and boiled.

This is the most expensive and labor-intensive process and is reserved for rinds, flowers, and more flavorful botanicals.

The Effect of Flavoring on the Final Product

- Cointreau and triple sec are both orange-flavored liqueurs, although the name Cointreau is proprietary.

- Cointreau was the first orange liqueur to be double distilled and was said to be three times drier than others. In fact, *triple sec* means "three dry" in French.

- The producers of Cointreau use a secret recipe that includes dried peels from sweet and bitter oranges, among other ingredients. In contrast, some generic brands of triple sec are made using a single flavoring agent.

- A comparison of Cointreau and a generic triple sec reveals differences in their aromas and tastes. The Cointreau smells more natural, like fresh oranges, while the generic version smells like orange-flavored gum or soda.

- On the palate, both spirits are sweet, but the Cointreau is drier and higher in alcohol than the generic triple sec and has more layers of flavor.

- Grand Marnier is another orange-flavored spirit, made with a cognac base and the peels of bitter oranges from Haiti.

Herbal Liqueurs

- The original recipe for Chartreuse, an herbal liqueur, was said to include 130 different herbs, flowers, and spices.

- The green of the original Chartreuse came from the chlorophyll of the plants and herbs used for flavoring. Yellow Chartreuse is colored with saffron.

- You may notice notes of citrus, clove, cinnamon, thyme, and rosemary in Chartreuse; it also has a bit of bitterness toward the finish.

The History of Absinthe

- Many people still believe that absinthe is illegal or that it causes hallucinations. These myths arose because of its flavoring agent, wormwood. Pure wormwood oil is poisonous.

- The classic way to drink absinthe is to hold a sugar cube in a special absinthe spoon over the glass of spirits, then drip water on the sugar cube to melt it. The melted sugar sweetens the absinthe.

- Over the years, absinthe gained a reputation for being an addictive psychoactive drug, just like opium. The cause for this concern is the fact that wormwood contains a chemical called thujone, which can, in high doses, affect the nervous system and cause convulsions.

- A study in 2008 showed that the absinthes produced from around the start of the 20th century contain only small amounts of thujone. For this reason, absinthe is now legal.

Terms on Liqueur Labels

- The term *ordinair* ("ordinary" in French) refers to liqueurs at the bottom of the value spectrum. The next levels, in order of quality, are demi-fine, fine, and surfine.

- A liqueur with the word "balm" on the label has a thick consistency.

- Liqueurs labeled "water," "extract," or "elixir" are on the lighter side.

- "Crème" indicates that a single flavoring agent has been used and the liqueur is usually heavily sugared.

- Liqueurs that are labeled "cream," such as Bailey's Irish Cream, actually contain cream.

Bitters

- Bitters are made in the same way as other liqueurs; that is, botanicals or other ingredients are distilled or macerated in neutral alcohol to concentrate the bitter compounds.

- For centuries, the bark of the cinchona tree, or cinchon, has been a key ingredient in bitters. Today, cinchon is used, along with angelica root, bitter orange, rue, artichokes, rhubarb, bitter aloe, and other roots and botanicals. Sweetener is added to reduce the bitterness.

- There are three types of bitters: **aperitifs** (consumed before a meal, such as Campari), digestifs (consumed after a meal), and cocktail bitters.

- **Digestif** bitters fall into two camps: sweet (such as Amaro Averna) and overtly bitter (such as Jägermeister).

- Cocktail bitters, such as Angostura bitters (once also thought to be poisonous), are reduced to their essence and have a unique ability to add amazing flavor to drinks.

Important Terms

aperitif: A type of bitters consumed before a meal.

compounding: The cheapest method of flavor extraction; a simple process of blending essences and concentrates into a base spirit.

digestif: A type of bitters consumed after a meal; there are two categories of digestifs, sweet and overtly bitter.

infusion or **digestion**: A method of flavor extraction, similar to maceration but using heat. The process works under the same concept as steeping a

teabag in hot water and is usually reserved for dried leaves, plants, and herbs in making liqueurs.

percolation: A method of flavor extraction in the production of liqueurs that uses heat. The spirit is put in the bottom of a tank and repeatedly pumped through the flavoring ingredients, which are at the top.

Liqueurs and Cordials—The Flavored Spirits

Lecture 6—Transcript

Liqueurs are the sweet side to spirits. They are closely related to flavored spirits, but they meet a required minimum sugar level. Depending on the type of liqueur, the sugar content might be as high as 40 percent.

The Difference between Liqueurs and Cordials

You may have heard the terms "liqueur" and "cordial." Is there a difference between the two? Historically, cordials were sweet spirits that were fruit based and liqueurs were spirits that were herb based, but the line has blurred, and these days, the words are used interchangeably. People in the United States tend to use the word "cordials" while Europeans use "liqueurs."

Whether you call them cordials or liqueurs, you won't see a wider range of colors and flavors in any other category. Why? Because liqueurs can be flavored with anything—fruits, herbs, spices, seeds, nuts, cream, coffee, you name it.

Spirits for Today's Lecture

For today's lecture, you'll need the following to taste with us:

- amaretto
- drambuie
- Cointreau
- generic triple sec (I know that Cointreau and triple sec are both orange-flavored liqueurs, but I want you to get both.)
- Grand Marnier
- absinthe or absente (These aren't exactly the same, but they're closely related.)
- Chartreuse or other herbal liqueur

Cocktails for Today's Lecture
In this lecture, we will make some cocktails with Josh Berner, mixologist at Ripple. If you want to make these with us, make sure you get the list of ingredients from your guidebook. Our cocktails are a Cosmopolitan, a Monkey's Gland, and a B-52, which is one of those crazy layered drinks.

History of Liqueurs
Today, we think of liqueurs as an after-dinner drink—kind of a dessert. But in the Middle Ages, monks and others would steep herbs in alcohol to produce medicines in the hope of warding off the bubonic plague.

Remember that Mary Poppins' song: "A Spoon Full of Sugar"? That was the general idea with those herb-infused alcohol medicines, and that's where liqueurs came from.

Some of the liqueurs created by these monks are still in production today and are named after the orders that created them. For example, Bénédictine is made by the monks of the same name in France. And Chartreuse is made by the Carthusian monks, also in France, who developed this liqueur in the hopes of creating an elixir for long life.

The Italians have been making liqueurs and bitters for centuries. Some of the most popular liqueurs even today are Italian, for example, amaretto; amaro, which means "bitter"; and sambuca, just to name a few. I'll talk about bitters a little later in the lecture, but let's start by looking at the base spirits for liqueurs.

Base Spirits
Liqueurs come in all kinds of flavors, from artichoke to melon to hazelnut. Theoretically, you could add flavoring and sugar to any spirit and make a liqueur—but not necessarily one you'd want to drink!

So what goes into making a good liqueur? The distiller chooses ingredients and processing based on desired flavor, availability of flavoring materials, and of course, economic considerations.

Let's look at flavor first. As we've seen in other lectures, the base spirit has an impact on the final flavor. So the first decision the distiller must make is which base spirit to start with. For example, for a fruit liqueur, the distiller may want to choose an eau de vie or a brandy base distilled from fermented fruits.

Here, I have two liqueurs, amaretto and Drambuie, two popular liqueurs with two different bases. Before you taste, know that you don't have to sip them straight. I do when taste comparing because I prefer to get the full flavor of the spirit. However, if you want to add ice or some water, that's OK. You'll still get the effect of what we're talking about here.

Let's start with Disaronno Originale Amaretto. Notice when you're looking at these two spirits, look at the reddish hue you're getting with the amaretto. Now you sniff. The base spirit is made from apricots, and the flavor you think is almonds actually comes from herbs and spices that are macerated in apricot kernel oil. This is a recipe that dates back to 1525. Now let's take a sip. It's a liqueur! Amaretto is sweet; it's about 28 percent abv, and you can tell that the base is fruity.

Now let's try the Drambuie. See that it has a gold or pale amber color. Now let's sniff. You definitely get some honey, some herbs (like heather), and some spices (like clove and nutmeg), but you can definitely tell it's based on whiskey. Now let's take a sip. Drambuie is also sweet; it's about 40 percent abv, and you can tell that the base is whiskey.

As we've just seen, the base spirit is the first thing that can influence the flavor in a liqueur. This is important because the flavors that are added to the base should be complementary. For example, with cream liqueurs (such as Bailey's Irish Cream), you'd want a base that is totally neutral, such as vodka or whiskey, because that would prevent any strange flavor interactions.

However, financial considerations also come into play in making liqueurs. Using cognac as the base (as in Grand Marnier) is expensive, and a distiller may prefer to save money by using a beet sugar or wheat or corn vodka base. In addition to the flavor, the base spirit also affects the final price of the liqueur.

Adding Flavor

Once a distiller decides on the base spirit, flavor is added. The goal is to extract the most intense flavors and aromas from the flavoring agents. There are several methods of extraction, and each has benefits and disadvantages.

The cheapest method is compounding. This is a simple process of blending in essences and concentrates into a base spirit. These can be natural essences or artificial flavorings.

Maceration is the process that is most gentle on the flavoring material, so it's generally reserved for those flavoring agents that will change flavor or structure with heat, such as delicate fruits, like berries or bananas. These are soaked in high-proof alcohol until their character is absorbed by the alcohol. Heat is not used with maceration.

Infusion is a type of maceration that does use heat. It's usually reserved for dried leaves, plants, herbs, and so on. It's the same concept as steeping a teabag in hot water. Sometimes this process is also called digestion.

Percolation is another flavor extraction method that uses heat. The spirit is put in the bottom of a tank and pumped through the flavoring agents, which are at the top. They do this over and over again. This is the same concept as using a percolator to make coffee. This method is a bit more aggressive on the flavoring agents, and is especially used for those that are tough to extract from their sources, such as vanilla, or cocoa beans, or some other types of botanicals.

The final extraction method is distillation. This process is similar to what we saw in the production of gin. Botanicals are dried and placed in a pot still. Base spirit is added to the still and boiled. The vapor rises as it's heated, and it carries the molecules from the base spirit and the essential oil compounds from the botanicals. This is the most expensive and labor-intensive process and is reserved for rinds, flowers, and even more flavorful botanicals.

What difference does the type of flavor addition make?

Here I have Cointreau and a triple sec. The first name is proprietary and the second is generic. Cointreau was the first in orange liqueurs to double distill and was said to be three times drier than others. Triple sec, or "three dry" in French, refers to this property of being three times drier.

Cointreau is a proprietary liqueur because it is made from an exclusive recipe that only Cointreau knows. I've been to the distillery, where visitors are told that the recipe uses dried peels from sweet and bitter oranges, but beyond that, you're not told anything. I certainly didn't have that level of security clearance. I'm sure if someone had told me, they probably would have had to kill me.

Cointreau may have invented the triple sec category back in the 1800s, but since then, other producers have wanted to get in on the action. These producers make a generic version of triple sec. A generic brand has no proprietary name, which has commoditized some of these liqueurs. Some generic brands of triple sec are made using a single flavoring agent.

Let's compare the Cointreau and a generic triple sec side by side. Taking a look at them, they look very clear—like water.

Now let's smell them. Sniffing the Cointreau, you smell fresh and dried orange peels, and you have a little bit of floral notes in there. Now let's smell the triple sec. The triple sec also smells like orange flavor, but instead of smelling like fresh and dried orange peels, it smells more like orange-flavored gum or orange soda. Now, I don't have anything against gum or soda; my point here is that one smells more candied and artificial smelling than the other.

Now let's sip. Tasting the Cointreau, you definitely get that it has some sweetness to it. You can definitely taste the alcohol in there as well. You have some of the same flavors on the palate as you had on the nose: those fresh and dried orange peels and just a little hint of floral notes. Now let's try the triple sec. You have the same flavors as you had on the nose, but on the palate, it seems to be a bit sweeter and lower in alcohol.

Remember we were talking about what "triple sec" means—that triple sec is three times as dry? In this case, the triple sec here is actually sweeter than the Cointreau.

Notice how long the flavor lasts as well. The flavor of the Cointreau lasts longer than the triple sec, and the triple sec seems fairly one-dimensional—meaning that it has just one flavor—while the Cointreau has a couple of layers to it. You can smell some other things, such as orange peels and light floral tones as well, so you may get that.

I'm not suggesting that generic brands are all artificial and proprietary brands are all natural. The point is that knowing the production methods in advance can make all the difference in your tasting experience and in your cocktails.

In terms of taste, you may prefer Cointreau in your cocktails, given that it has a bit more complexity, longer length, and a bit more of a natural aroma. Because it's less expensive, however, some hosts or bartenders prefer to use triple sec.

Still, great bartenders and certainly mixologists prefer to use spirits that are of the best quality and made with the freshest ingredients. They know that these factors affect the resulting cocktail.

Here's another fun demo you can try: Take two cocktail glasses and put some water in them—about halfway up or so. (Of course, they're both clear; they're water.) Now, pour some triple sec into one glass and Cointreau in the other, and see what happens. Do you notice something? The Cointreau starts to cloud up, looking like someone has added milk in there. It actually looks kind of opalescent. Some producers call this an "opalescence."

What's going on? This is a reaction called louching; the reason that the glass with the Cointreau goes cloudy has to do with the natural oils in the product. When these hydrophobic essential oils mix with water, an oil-in-water micro-emulsion reaction takes place. That's why you see the cloudiness.

Notice that this reaction does not take place in the other glass. What does that tell you? The generic triple sec does not have natural essential oils.

I was in a restaurant a few years back, and I ordered a cocktail that was listed as containing Cointreau, but when I tasted it, it tasted kind of like orange-flavored bubble gum.

I asked the bartender to pour me an Old-Fashioned glass of the Cointreau and put ice and a little water in it. It didn't cloud up, so I knew that the restaurant was pouring generic triple sec into the Cointreau bottle and trying to pass it off as the good stuff.

Before we move on from these two similar liqueurs, let's up the ante a bit by going to another type of liqueur, Grand Marnier. You might say it's just another orange-flavored spirit, but is it?

It's not. The base of Grand Marnier is cognac, and this is where you can really see the difference that the base spirit makes. The makers of Grand Marnier use only the peels of bitter oranges from Haiti—so the flavorings also make a difference. The Grand Marnier definitely has different sets flavors and different complexities, which we just saw had more complexity than the triple sec.

Let's compare the two proprietary spirits. Take a look. They're both very different colors: one is clear, and the other one is slightly tawny.

Now let's sniff. Again (we've smelled the Cointreau before), you've got the fresh and dried orange peel notes in there and a little floral notes. Now let's sniff the Grand Marnier. You get some slightly toasty aromas in there, and it almost smells like more of those dried orange peels with little hints of vanilla.

They're both sweet, but you definitely notice those touches that have seen oak, like the vanilla kind of tones in there, and some kind of caramely kind of notes. So it's a little different; it's less fruity, but you have other layers of complexity in there.

Now, go back to the triple sec and have a sip. You should really notice the difference there. You might be more inclined to use the triple sec or Cointreau to mix in a cocktail and to sip the Grand Marnier—although it does add sublime flavor to a cocktail.

Herbal Liqueurs

We talked earlier about Chartreuse, which is an herbal liqueur. Legend has it that the original recipe included 130 different herbs, flowers, and spices. Let's subject it to our four S's:

See: Take note of the color, Chartreuse has a unique color. The color you see here is the original Chartreuse came from the chlorophyll of the plants and herbs used for flavoring, so it's green, while Yellow Chartreuse is colored with saffron. Now sniff. When you sniff, you may notice aromas of citrus, clove, cinnamon, thyme, and rosemary—it smells like herbs.

Now take a sip. Chartreuse is pretty high in alcohol—about 55 percent abv, or 110 proof. You will feel a lot of heat on the back palate. Now savor. The intensity of the flavors lasts for a long time on the palate. Do you notice a bit of bitterness toward the finish? That's typical, too. These elements can add structure to cocktails.

The History of Absinthe

Absinthe is probably the most infamous liqueur. People still think that it is illegal or that it causes hallucinations. There are a lot of myths out there about absinthe, but here's the real story.

Absinthe is a liqueur with wormwood as the flavoring agent. Wormwood is a plant that is related to anise, and though pure wormwood oil is poisonous, it was originally used in small doses for medicinal treatments. For example, it once was used to ease childbirth, to cure stomachaches, and as an antiseptic, among other things.

What does wormwood taste like? It has a musky, floral aroma and it's slightly bitter. In fact, its bitterness is mentioned in the Bible; that's how ancient it is.

Absinthe, the liqueur made with wormwood, had a very high level of alcohol (generally about 131 to 150 proof, or up to 75 percent abv), and it was sweetened to overcome some of that bitterness.

In the late 1700s, absinthe was used by the French Foreign Legion to treat malaria. However, it began to have a more recreational reputation as people claimed it boosted creativity.

In the late 1800s, absinthe was a popular drink among Parisian artists and bohemians. Some very famous people were known to be absinthe drinkers at this time, such as Van Gogh and Oscar Wilde. The classic way to drink absinthe is with a lump of sugar. Here's how.

You can use absinthe or Absente for this. Absente uses a different type of wormwood, called southwood, and it's a bit sweeter. And by the way, you have to use a lump or a cube of sugar, not a spoonful.

What you want to do is place two ounces in a tumbler, then place one large ice cube, or if you have smaller ones place two. Then put a sugar cube in an absinthe spoon—and you want to put it on the flat side of the spoon where you have the holes. Just rest it right on top of the glass. Then drip water on top of the sugar cube. This is going to start the melting process; the melted sugar will sweeten the absinthe, and then you can feel free to taste it.

By the end of the 19th century, absinthe had a reputation for being an addictive psychoactive drug, just like opium. But that was a myth. The cause for all the commotion is a dangerous chemical in wormwood called thujone. In high doses, thujone affects the nervous system and creates convulsions.

Scientists in the past thought that absinthe contained up to 260–350 milligrams per liter of thujone, and that's why it was banned. But a study

Wormwood is the flavoring agent in absinthe.

in 2008 showed that the absinthes produced from around the start of the 20th century contained, on average, only 25 milligrams of thujone per liter.

For that reason, absinthe is now legal. It can be produced under the European Union limits for thujone content, which is a maximum of 10 milligrams per liter if greater than 25 percent alcohol.

Terms on Liqueur Labels
Look for these terms on liqueur bottles to help you determine quality:

- Ordinair ("ordinary" in French) refers to those liqueurs at the bottom of the value spectrum.
- Demi-fine is the next level up.
- Fine is higher than demi-fine.
- And surfine means top quality.

Then there are three sweetness levels:

- Balm has a thick consistency.
- Liqueurs labeled water, extract, or elixir are on the lighter side.
- Crème indicates that a single flavoring agent has been used and the liqueur is usually heavily sugared. These liqueurs, such as crème de cacao or crème de cassis, are rich and extra sweet.

Don't confuse the word "crème" with "cream" in such liqueurs as Bailey's Irish Cream; which actually have cream in them. In 1979, Bailey's Irish Cream opened the door for cream liqueurs when its producers figured out how to develop a blend that could last at room temperature indefinitely or in the refrigerator for about two months after it's been opened.

Bitters
The category of spirits known as bitters can be confusing. Bitters are used not only as aperitifs and digestifs, meaning to help you digest your meal, but also as a structural element to add some magic to cocktails.

Bitters have been used as medicine since the days of Hippocrates, around the 5th century B.C., and the Romans used them, as well.

They're made in the same way as other liqueurs; that is, certain natural botanicals or other ingredients are distilled or macerated in neutral alcohol to concentrate the bitter compounds.

For centuries, the bark of the cinchona tree has been a key ingredient in bitters because it contains quinine. You've heard of tonic water—that has a tiny bit of quinine in it. Quinine has been used to treat a host of ailments, including malaria, and the Peruvians used to take it to stop shivering from the bitter cold in the Andes.

Today, cinchon is used, along with angelica root, bitter orange, rue, artichokes, rhubarb, bitter aloe, and other roots and botanicals to make bitters. Sweetener is added to reduce that level of bitterness, that intensity.

Types of Bitters

There are three types of bitters: aperitif bitters, digestif bitters, and cocktail bitters. Aperitifs are those bitters that are drunk before a meal to sharpen the appetite. Campari is an example of this type of bitters. Campari is an Italian brand with 68 ingredients, including bitter orange, rhubarb, and cinchon.

Then there are digestifs, which are consumed after a meal. Digestif bitters fall into two camps: sweet and overtly bitter. The Italian Amaro Averna is in the sweet camp. By contrast, if you've ever been to the Czech Republic, you may know of Becherovka, which is quite herbal or medicinal tasting. Jägermeister, which is popular with college students, is an example of a digestif in the overtly bitter camp. It has 56 ingredients, including anise, poppy seed, and juniper.

Finally, we have cocktail bitters, which are reduced to their essence and have a unique ability to add amazing flavor to drinks. Angostura bitters is one of the most popular brands of cocktail bitters, and like many liqueurs and bitters, it got its start as a medicine. It was first made in 1824 by Dr. Johann Siegert to treat malaria for troops in Venezuela and was also used to treat hiccups, upset stomach, seasickness, and scurvy.

You may have heard that Angostura bitters is poisonous because it contains angostura bark. This is a myth. However, in the old days, crooked sellers would adulterate the bitters with cheaper and actually poisonous barks.

Angostura bitters, often just known as Angostura, has 44.7 percent abv and is flavored from gentian root and vegetable extracts. Mai Tais, Planter's Punch, and Between the Sheets are just a few of the drinks that can be made without bitters but gain in complexity and flavor when bitters are added. You should experiment a little when you have cocktails so you can see the difference between the two and see what bitters can do to your cocktails.

Cocktails

Some cocktails languish in the sidelines until someone famous starts drinking them. The Cosmo first came on the scene in the 1980s, and a lot of places claimed to invent it. A decade later, Madonna was spotted drinking one, and the Cosmo became an overnight success.

Our mixologist, Josh Berner, is going to make us a classic Cosmopolitan, and then he's going to make a drink that will give you a chance to try absinthe. It's called a Monkey's Gland—sounds horrible, I know, but it's really amazing! If you try one, pay attention to the long finish that the absinthe gives to the drink.

Josh will also make a B-52, which will give you a final challenge if you want to try making a layering drink at home.

Recipes

The Cosmopolitan
Mixologist: Josh Berner, Ripple

For this recipe, you'll need:

- 1½ oz Citron Vodka
- 1 oz Cointreau
- ¼ oz fresh lime juice
- ¼ oz cranberry juice
- lime wedge for garnish

Shake all the ingredients with ice. Strain into a chilled cocktail glass. Garnish with a lime wedge. For a different flavor, you can substitute peach schnapps for the orange liqueur or use Limoncello instead of the lime juice for a Cosmocello. You can make countless Cosmo variations.

Monkey's Gland
Mixologist: Josh Berner, Ripple

For this recipe, you'll need:

- 2 oz gin
- 1 oz orange juice
- ¼ oz grenadine (homemade is best; recipe below)
- 1 dash absinthe
- orange twist for garnish

Swirl a dash of absinthe in a chilled cocktail glass to coat it, then dump any excess liqueur. Shake gin, orange juice and grenadine with ice. Pour into the cocktail glass. Garnish with an orange twist.

Josh Berner's Homemade Grenadine: 2 ½ c. pomegranate juice, 1 c. simple syrup (made with white sugar), 1 oz cognac. Stir and use. Keeps up to 3 weeks in the refrigerator.

B-52
Mixologist: Josh Berner, Ripple

For this recipe, you'll need:

- 1 oz Kahlúa
- 1 oz Bailey's Irish Cream
- 1 oz Grand Marnier

In the base of a shot glass or small cocktail glass pour the Kahlúa. Next, put the spoon upside down touching the inside of the glass and pour the Irish Cream from a spouted pitcher slowly over the back of the spoon. Use the same technique to add a layer of Grand Marnier on top of the Irish Cream. You can make a flaming version by adding a thin layer of 151-proof rum on top and lighting it on fire.

And that's it! We have covered all of the spirits categories—vodka, gin, whiskey, rum, tequila, brandy, and liqueurs. You are now armed with the knowledge of how they taste, have some great insight into their histories, and know how to make some great classic cocktails and a few wild ones.

This course comes with two bonus lectures. These will teach you the importance of ice, how to use bartender tools, how to make your cocktails look even better, how to make cocktails more "figure friendly," how to make holiday cocktails, and more.

If you've made it this far in the course, you deserve to relax and have a drink, so cheers!

The Mixology Toolkit and Classic Recipes

Bonus Lecture 1

This bonus lecture covers some of the basics of good bartending. You'll learn what bartending tools you need and how to use them, the types of ice and glassware that are used for various drinks, and the difference between a mixed drink and a cocktail.

Basic Bartending Tools

- To achieve the correct balance in cocktails, you need two types of double-sided jiggers, one that measures 1 ounce and 2 ounces, and one that measures ¾ ounce and 1 ½ ounces.

- Shakers are generally used with ingredients that are cloudy or opaque, such as juice, cream, or eggs. There are two types of shakers: the cobbler shaker (consisting of a metal container to hold the liquids and a cover with a removable cap) and the Boston shaker (consisting of a glass tumbler and a metal tumbler). Professionals often use the Boston shaker, which requires a special technique.

- There are also two types of strainers, the Hawthorn strainer (which has a spring) and the Julep strainer (with holes). Strainers are used to avoid getting fruit pulp in a cocktail.

- The cocktail spoon has a long handle with a twisted stem. It is used to stir clear ingredients in order to chill them.

- A muddler is a wooden tool used to release the juice from fruit or the oils from herbs. It's best to use a long muddler that is unlacquered.

Ice Makes All the Difference

- Regular ice cubes are used for many cocktails, especially those that are shaken, stirred, or served on the rocks, because the cubes are too big to melt quickly. Use cubes when mixing cocktails with fruit juice, dairy products, or eggs.

- Crushed or cracked ice, which is smaller than ice cubes but larger than shaved ice, is used for such cocktails as the Mojito or Caipirinha.

- Shaved ice has a snow-like texture and is used for fruity, summertime drinks, such as frozen Margaritas, frozen Piña Coladas, or frozen Daiquiris.

- Blocks of ice are used to chill punch. A block of ice melts slowly, keeping the punch cold without diluting it.

- Ice balls are small enough to fit in a glass. Like an ice ball melts slower than ice cubes, so the drink gets less diluted. Ice balls are commonly used in Japan for whiskey on the rocks.

Many cocktails are served over ice cubes.

- Always use a plastic or metal scoop to add ice to a glass, make sure you use fresh ice, and start each new drink with new ice.

The Importance of Glassware

- The cocktail or Martini glass is used for Martinis, Cosmos, and Sidecars. These glasses make the cocktail look posh and sophisticated.

- An Old-Fashioned glass is also called a tumbler, rocks glass, or whiskey glass. It is usually used for drinks meant to be sipped, such as aged spirits, or served over ice.

- The Highball glass is also called a Slim Jim glass or a Collins. Highball glasses are for drinks served long over ice, such as the Mint Julep.

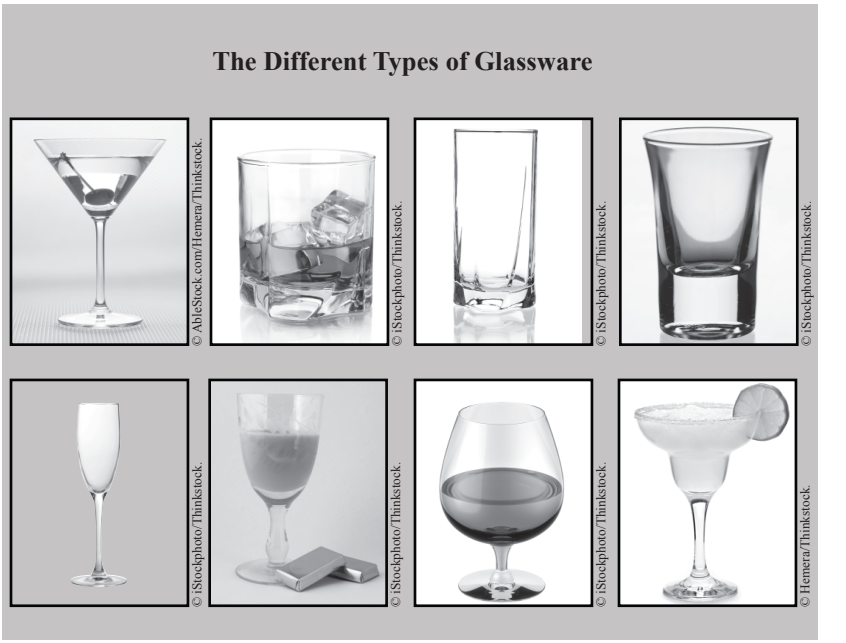
- A shot glass is for a drink that is intended to go down in one shot.

- Flutes are used for champagne but also for some mixers, such as Mimosas. Flutes can be used for sparkling wine and some sparkling cocktails.

- Because liqueurs are sweet, a cordial or liqueur glass is small. The long stem prevents the drinker's hands from warming the glass.

- Snifters are also called brandy balloons. This glass is traditionally used for brandy, but it can also be used for other brown spirits or aged spirits, such as rum or añejo tequila.

- The coupette is also called the Marie Antoinette glass. It's used mostly for traditional or frozen Margaritas.



Top row left to right: cocktail (Martini), tumbler, Highball (Slim Jim), shot glass. Bottom row left to right: flute, liqueur, snifter (brandy balloons), Coupette (Marie Antoinette).

The Mixology Toolkit and Classic Recipes

Bonus Lecture 1—Transcript

If you want to make cocktails, you need to know what the basic tools are and how to use them. But even if you just need a primer or a refresher, this "bartender toolkit" session will be helpful.

The Jigger

Let's start with the jigger. The jigger is for measuring ingredients. Jiggers are important for balance. Have you ever gone to a bar and said, "Wow, that cocktail was way too strong for me"? That shouldn't really happen. If the drink tastes as if it has too much of one thing or the other, that's likely because the measurements are off and they were out of proportion.

Here, we have a double-sided measuring jigger. You need a jigger with a 1-ounce measure on one side and 2 ounces on the other. Here we have a ½ ounce and a one ounce. You also need a second jigger with ¾ ounces on one side and 1 ½ ounces on the other. You'll never have to guess if you've got these standard measurements covered with these two jiggers.

I recommend measuring exactly with your jigger in the beginning to make sure you have the proper balance. Once you get the hang of eyeballing what 1 ounce looks like versus 1 ½ ounces, then you can do what some bartenders and mixologists do and wing it. But until then, measure. Your cocktails will taste better, and you won't waste ingredients.

The Shaker

Let's talk about the shaker. When your cocktail recipe says "shake with ice," use a real shaker, because that will cool the liquids without diluting them too much. Shakers are generally used with ingredients that are cloudy or opaque, such as juice. Here, we have two kinds, the cobbler shaker and the Boston shaker.

The cobbler shaker looks quite glamorous. It is all metal (mostly stainless steel, but you do see some silver ones) and consists of a container to hold the

liquids and a cover that has a removable cap. The great thing about using this shaker is that you just throw everything in and secure it with the top.

A lot of professionals use the Boston shaker. It has a glass tumbler (which is about 16 ounces) and a metal tumbler (about 26 to 30 ounces). The reason for the glass tumbler is that when you can see the ingredients, you can control the amounts more precisely.

After you've poured your ingredients and ice in the glass, you place the metal tumbler on top. This makes a kind of banana-looking shape with the two glasses combined. Don't shake yet because you need to seal it. Otherwise, ingredients will go flying everywhere.

To seal the shaker, turn the entire thing over so that the bottom of the mixing glass is on top. Strike the glass part with the palm of your hand one time to make sure it's sealed. Then, hold both ends in your palms. I've also seen people put a finger above and fingers on the bottom or one hand on top and one hand on the side. You can experiment until you find a position that's comfortable but secure.

You want to shake hard. The saying is: You want to wake it up, not rock it to sleep. Some bartenders shake over their shoulder; some shake up high. It doesn't really matter what technique you use to shake. As long as the shaker is sealed properly, you shake hard.

When you see condensation on the outside of the metal tumbler, then you know that the drink is cold and ready to go.

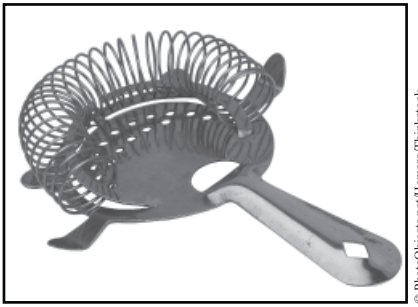
When you shake, you want the metal part facing your guests because the opening is now toward you, and if small drops of juice or spirit fly out, they will hit you, not your guests.

To break the seal, you need to strike with the palm of your hand where the glass and the metal tumblers come together. Where you strike your hand is actually where the metal tumbler and the glass just start to come apart. Strike there, wiggle the glass out, and that's it; it will come right off.

You don't have to actually strike it very hard, but you do have to strike the right spot, otherwise it's going to be near impossible to open. This is where most people have problems.

The Strainer

Some recipes allow you to pour the contents directly into a glass, but other cocktails require a strainer. There are two types of strainers: There is the Hawthorn strainer. This one here has the spring. It fits neatly on top of the metal tumbler. What you're going to want to do is hold it with one finer or two, then you're going to pour.



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A strainer is used for some cocktails to catch the ice but to allow the liquid to flow through.

Next, we have the Julep strainer. The Julep strainer is the one with all the holes in it. This is actually for the glass tumbler. Put it in with the concave side up (the rounded part up) and you're going to do basically the same thing. This can be a little bit tricky, but you'll get the hang of it. It's the same concept: Put your fingers around and one or two fingers on the top, and then you're going to pour directly like that.

You strain using only one hand. You should place your forefinger (or two) on the top and hold the rest of the shaker with your thumb and other fingers.

If you're using fresh lemon juice and you're afraid of getting pulp into the cocktail, what I recommend is to use this little strainer to pour everything through, so all the pulp and maybe some of the seeds get caught in there.

You can add a bit of flare when straining and pouring a cocktail. For example, some mixologists will tell you to pour a martini in a circular motion. The final motion should be a sharp snap of the wrist to punctuate the ceremony and draw attention to the drink. Others say you should pour directly in the center of the cocktail glass and raise it up as you're finishing the last ounce. The flare is up to you as long as you don't spill.

The Cocktail Spoon

The cocktail spoon is used for stirring. It has a long handle with a twisted stem. You want the back of the spoon to hug the glass when you're stirring; it's not like stirring a coffee with sugar. That's the reason why it's twisted; it's twisted around to help you. You can see this one is slightly bent. They come straight, but if you bend it just slightly, that can actually help you do this a little bit easier.

When do you stir rather than shake? Shake for cloudy ingredients, such as juice, cream, or eggs. Stir for clear ingredients, or just spirits. The purpose of stirring is to get the drink cold without introducing as much air as a shaker does or having any tiny pieces of ice remain in the drink. Stir for a good 15 to 20 seconds so your ingredients are nice and cold. After that, you can use the Julep strainer to pour the drink into a cocktail glass.

The Muddler and How to Muddle

Here we have different types of muddlers. The muddler is a tool. Here we have a wooden muddler. Muddling properly is one of the keys to delicious and balanced cocktails. That's especially true for drinks with herbs, such as mint in a mint Mojito, or drinks with fruit, like the fruit in an Old Fashioned.

First, you need to make sure you have a muddler that is tall enough for you to muddle without hurting your fingers. Sometimes you'll see ones like this that have lacquer on them. Sometimes the lacquer, after a lot of use, comes off. You're not going to want to do that because the lacquer comes off in your drink and ends up in your belly; you don't want that. Plus, you want it tall enough so that when you're muddling down, you're not actually hurting your fingers. The one that I have is something like this; it's tall enough so you don't have to worry about hurting your fingers, and there's no lacquer coming off.

Second, make sure the glass you have is thick enough so there's no risk of breaking the glass. A pint glass or mixing glass works really well.

For muddling fruit, such as a lime, roll the lime on a cutting board first. By doing this, you're releasing the juices and it makes the fruit easier to muddle. As part of the bartender's toolkit, you need a cutting board and a

cutting knife or fruit knife. Cut the fruit into wedges, half wedges, or wheels. Wedges are more uniform, sit easily at the bottom of a glass, and make it easier for you to muddle.

The pressure you apply when you muddle is important. Do this incorrectly and you end up with a drink that has floating garnishes in it but not a lot of flavor or bitter ingredients by pressing too hard.

Secure the glass on a flat surface with one hand and then pick up the muddler in your other hand. Place it in the glass with your arm over it in such a way that the weight of your arm does a lot of the work. Press down and twist, and keep twisting until you've pressed all the juice out of the fruit.

The muddler releases not only the juice but also the oils from the rind. If you're using mint, it extracts the oils from the mint leaves.

A muddler is used when making a Mojito.

I should point out that the best bartenders and mixologists use only the freshest ingredients. If you don't, you'll taste the difference in the resulting cocktail.

Ice Makes All the Difference

Ice can make or break a cocktail. Except for toddies or hot cocktails, ice influences the dilution of the alcohol, how the drink falls on your palate, and the taste of the cocktail itself.

For example, try tasting a traditional Margarita on the rocks and a frozen Margarita side by side. Or taste the difference between a cold glass of lemonade and a lemon slushy. Notice that these two taste experiences are completely different.

Bartenders use six basic types of ice, and you should be aware of the differences they make in cocktails.

Ice Cubes
Ice is all about bringing your cocktail to the correct serving temperature. Let's start with regular ice cubes. Ice cubes are good for many cocktails—especially those that are shaken, stirred, or served on the rocks—since they're too big to melt quickly.

One of the biggest myths about mixed drinks is that the more ice a bartender puts in the glass, the less alcohol you get. This isn't true. The bartender is not trying to rip you off. He or she is trying to cool your drink fast enough that it won't get diluted quickly. This is why you shake a drink; it cools the drink faster.

However, if you cool the drink with cracked ice, the ice melts too quickly, and your drink will be more diluted than you will likely prefer. It also may throw the cocktail out of balance.

You want to use ice cubes especially when mixing cocktails with fruit juice, dairy products, or eggs.

Crushed or Cracked Ice
Crushed or cracked ice is smaller than ice cubes but larger than shaved ice. The ratio of its surface area to the warmer air or liquid around it is less, and therefore, it melts faster.

At home, you can wrap ice cubes in a clean cloth (I've seen people use cheese cloth) and hit the bundle with your muddler or just whack it a few times against the counter. You don't want to work with too much ice at one time, and you need to work quickly or the ice will melt.

A blender will not work for crushed ice, as it will grind it too fine. You can buy a hand-cranked ice crusher, and those work really well. Crushed or cracked ice is used for such cocktails as the Mojito or Caipirinha.

Shaved Ice
Shaved ice is even smaller than cracked Ice. It has a snow-like texture. This type of ice is used for fruity, summertime drinks, such as frozen Margaritas, frozen Piña Coladas, or frozen Daiquiris.

You can buy a shaved ice maker, or you can crush ice cubes in a blender, grinding them until they are quite fine, like the texture of snow.

Block Ice
Blocks of ice are used for punches. A block of ice melts very slowly, keeping your punch cold without diluting it too much.

The Ice Ball
Finally, there is the ice ball or single large block of ice. These are becoming increasingly popular. It's smaller than a block, so it fits inside one glass, but only one ball goes in, say, an Old-Fashioned glass. Again, it melts more slowly than ice cubes, so the drink gets less diluted. An ice ball is commonly used in Japan for whiskey on the rocks.

Tips on Handling Ice
Always use a plastic or metal ice scoop. Your hands could be dirty and will also warm the ice. Never use a glass as an ice scoop either. Every bartender has a story about broken glass in the ice. Trust me, it's a nightmare.

Always make sure you have fresh ice that has not been stored near anything with a strong odor, such as fish. Any unpleasant odors in the ice will definitely transfer into your cocktails.

When you make a new drink, pour out the old, half-melted ice and start with new ice. This will keep your ice-to-spirit ratio balanced, and the cocktail will taste better.

You may never have considered the importance of ice in your cocktails before, but I hope you see now that ice is key to a cocktail's temperature, balance, and taste. Knowing the type of ice to use is one more step in making great cocktails. Cheers!

The Importance of Glassware
The type of glass used to serve a cocktail contributes to both its taste and appearance. Appearance is important because part of the experience of drinking a cocktail is to achieve the right "look."

Here, I have two glasses with the same cocktail. The recipe is the classic Martini. On the left, I have it in an Old-Fashioned glass, and here I have it in a Martini glass (also called a cocktail glass).

The one in the cocktail glass looks more elegant, right? There is a level of sophistication that is associated with the shape of the cocktail glass. In the Old-Fashioned glass, the drink just looks like water with an olive in it. The type of glass used makes a difference in presentation.

But the size and shape of the glass has another and, I might argue, a more important function. It affects your perception of the aroma and taste of the spirit or cocktail. Let's test this idea.

Here, I have a shot glass and a snifter or also called a balloon glass, both filled with cognac. Feel free to pause your media player, grab a shot glass and a brandy snifter, and try this with me.

Pick up the shot glass, and we're going to do the four S's of tasting spirits. See: You can't really tilt the shot glass too much, otherwise you're going to spill it everywhere. Now let's sniff. The ability to sniff in a shot glass is somewhat limited because you can't really tilt it. Now we're going to sip. Notice the thickness of the glass and how the spirit falls onto your palate; see how that feels. Now savor it. Taste the spirit and see how long the flavor lasts.

Now let's try the cognac in the snifter. See: Doing the first S is a much different experience than doing it in the shot glass because you can really tilt the glass. I can almost lay it down completely flat, and it's not going to spill out.

Now what we want to do is sniff. The snifter is designed this way; it curves up at the top and narrows towards the top. The reason for this is that all of these volatile aromas and these aromatic compounds are coming up, and as you're tilting it towards your nose, it's forcing them all towards your nose.

Remember, you don't want to sniff too deeply or too fast because you could numb or anesthetize your nose, but you do want to take a sniff. Do you notice

that you get more aromas than in the shot glass? Chances are, you are going to get more and, perhaps, different kinds of aromas. The sides of the snifter capture many of those aromatic and volatile compounds that are totally lost to air with the shot glass. The snifter helps you capture more of those layers.

Now let's sip. Notice that when you're actually taking a sip, your nose is going into the glass, and the shape of the glass is forcing all of those wonderful aromas towards your nose.

When you savor it, though it's the same spirit, the experience is totally different in the four S's for the different glasses.

This may be an extreme example, but it shows you how the shape of the glassware you use influences how you perceive the aromas and how the spirit or cocktail falls on your palate. This, in turn, changes how you experience the drink.

Comparing Glassware

Let's go through the types of glassware and see what they're generally used for. This is a Martini or cocktail glass. The cocktail or Martini glass is used for Martinis, Cosmos, and Sidecars. They really make a drink look posh and sophisticated.

Here we have an Old–Fashioned. An Old-Fashioned glass is also called a tumbler, rocks glass, or whiskey glass. It is used for drinks that are meant to be sipped, such as aged spirits, or served over ice.

Here we have a Highball glass. The Highball glass is also called a Slim Jim glass or a Collins. Highball glasses are for drinks served long over ice, such as the Mint Julep.

Here we have a shot glass. A shot glass is for a drink that is intended to go down in one shot—literally.

Next is the Champagne flute. Flutes are used for champagne but also for some mixers, such as Mimosas. The shape of the glass has less surface area, so the bubbles don't dissipate too quickly; they actually go up the flute.

Here we have a cordial glass. The cordial glass, or liqueur glass, is called so because liqueurs are sweet, and the size of the glass used to serve them is small (for after dinner). But notice how long the stem is. This keeps your hand from warming the glass.

Here we have a snifter. Snifters are also called brandy balloons. It's traditionally used for brandy, but you can also use it for other brown spirits or aged spirits, such as rum, añejo tequila, or even scotch.

Here we have the Coupette. This glass is also called the Marie Antoinette glass because of the legend that it was actually molded after her breast. It's used mostly for traditional or frozen Margaritas. The shape of this glass is not appropriate for sparkling drinks. Why? Because it has a lot of surface area, and it's quite large, so the bubbles would dissipate too quickly.

Here we have the Sling glass. The Sling glass is used for punches and Slings, though it holds less than a tulip or hurricane glass.

Lastly, we have the Toddy. A Toddy glass is used for Toddies and hot coffee drinks, such as hot buttered rum or Irish coffee.

Note that no matter which glass you choose, all drinks should be served as cold as possible, except of course, for toddies or hot drinks. For best results, cool the glass in the freezer for a couple of hours ahead of time. You know the glass makes all the difference in the world; an ounce of image is worth a pound of performance.

Recipes

Classic Cocktails: The Sour and the Toddy
The Sour and the Toddy are two classic recipes that allow for a lot of creativity. Let's start with the Sour.

The Sour
The Sour is a category of cocktail that you are probably already familiar with. Sours combine the sweet with the sour and have three ingredients: liquor, a sour ingredient, and one or more sweet ingredients. The basic recipe is as follows:

- 1 ½ –2 oz base liquor
- ¾ oz sour ingredient (lemon juice, lime juice, or another sour ingredient)
- 1 oz sweet ingredient (liqueur or simple syrup)

Shake all the ingredients very hard for a slow count of 10.

The Sour is one of the most user-friendly of all basic cocktail recipes and is certainly a crowd pleaser. According to Dale Degroff, one of the great mixologist legends of our day, a Sour will satisfy about 95 percent of all drinkers.

If you or your guests prefer a sweeter drink, just add a bit more of the sweet ingredient, such as simple syrup. Though balance is important, this isn't baking. If you like it sweeter, make it sweeter!

Many classic cocktails are based on the Sour: the Daiquiri, Margarita, Cosmo, and Sidecar are all sours.

They all have the same pattern—base spirit/sour ingredient/sweet ingredient. Once you recognize this recipe, you'll start to see Sours everywhere. Understanding cocktails in this way and knowing this base recipe also allows you to be creative in developing your own fabulous variations.

Let me introduce our mixologist for our drink recipes, Duane Sylvestre from Bourbon Steak at the Four Seasons. He will be making them for us today.

The Toddy

Another classic category of cocktail is the Toddy. Toddies are hot drinks that are particularly yummy in the winter. They warm you up from the inside, and their flavors are more spicy, honeyed, and buttered than fruity.

The original Toddy recipe is as follows:

- 1 ½ oz brandy or rum (or ¾ oz of each)
- 1 tsp honey (or more to taste)
- 3/4 oz lemon juice

Another variation is called the hot buttered rum. You will see lots of recipes for this, but the simplest (and the fastest) I know the one that Duane is going to be making for us right now.

The butter melts and adds a very creamy flavor and texture to the drink. Toddies are excellent for brunch on a cold, wintry day. I once tried a variation of this recipe using cognac instead of rum and maple syrup instead of brown sugar. When I added some cinnamon to it, it tasted like a hot, sticky cinnamon bun.

Now that you're armed with some of the basic tools and techniques of bartending, you can start making and experimenting with cocktails like a pro. Once you know the classic recipes, the sky is the limit in terms of what you can create and the fun you can have. Until next time, cheers!

The Home Bar and Seasonal Recipes

Bonus Lecture 2

This bonus lecture offers a grab bag of information for home bartenders and hosts. You'll learn what spirits and mixers you need for your home bar, how to make some simple and impressive garnishes, what elements you should consider when pairing cocktails with food, how to make flavored vodka, how to enjoy cocktails while counting calories, and how to make some seasonal cocktails.

Equipping the Home Bar

- A complete home bar should be stocked with the following spirits: neutral and flavored vodkas; distilled and compounded gin; a light/white rum and spiced rum; a blanco tequila; blended whiskey, bourbon, and single malt; VSOP cognac; a variety of liqueurs, such as Cointreau, Kahlúa, Bailey's, amaretto, sambuca, and Campari; Angostura bitters; cream sherry; and sweet and dry vermouth.

- Mixers to have on hand include club soda or soda water, tonic water, ginger ale, lemon-lime soda, and cola.

- For garnishes, you'll need: lemons, limes, and oranges; mint (for example, spearmint), cilantro, and parsley; green olives; maraschino cherries; and pineapple, berries, and melons. Most garnishes are perishable, so buy them right before you need them.

- Types of garnishes include mint garnishes, citrus wedges and slices, spirals and zests, and flaming twists. Rimming a cocktail glass with sugar or salt is another popular way to garnish a drink.

Food and Cocktail Pairings

- Pairing cocktails and spirits with food is a hot trend because spirits can offer more versatility and freedom than other beverages with a meal. Cocktails can be tweaked to pair perfectly with almost any dish as long as you know the key elements of pairing: balance, texture (or mouth feel), and flavor.

- Balance involves matching the weight or body of the cocktail with the food and matching tastes. Serve full-bodied, rich drinks, such as a White Russian, with desserts or at the end of a meal. Serve more delicate drinks—Martinis or Mojitos—with lighter foods, such as seafood.

- When thinking about texture, consider the base ingredients of the cocktails you plan to serve. For example, tomato juice (as in a Bloody Mary) has a very different texture from champagne or soda water, so you wouldn't pair these cocktails with the same foods.

- In pairing flavors, you can either complement or contrast. An example of complementing flavors might be a wild mushroom or shitake ravioli or risotto paired with scotch. A contrasting approach might pair a fruity, rum-based drink with a spicy Caribbean dish.

Making Flavored Vodka

- You can buy flavored vodkas, but it's cheap, easy, and fun to make your own.

- To make lemon vodka, cut strips of peel from a lemon, taking care to avoid the pith. Drop the peel into a bottle of vodka and allow it to macerate for about two weeks.

- You can also make vanilla, chili pepper, bacon, and other types of infused vodkas to use in your own cocktails or give as gifts.

Making Cocktails More Figure-Friendly

- Generally, one shot of 80-proof (or 40 percent abv) spirit is about 100 calories. When you're blending a few shots of different types of spirits, these calories can add up quickly. For example, a 12-ounce Long Island Ice Tea has 520 calories and a Piña Colada has more calories than a Big Mac.

- One way to reduce calories in cocktails is to use club soda mixers because club soda has hardly any calories. Tonic water, however, can add about 100 calories to a cocktail.

- You can also reduce calories by avoiding sweet touches in cocktails, such as a sugared rim or drizzles of chocolate syrup, and using skim milk in some recipes.

- Finally, make smart substitutions. Replace simple syrup with a low-calorie sugar substitute, use fruit juice for the liqueurs in some cocktails, and ask for diet soda mixers.

Seasonal Cocktails

- Instructions for making seasonal cocktails can be found in the recipe section of the course guidebook.

The Home Bar and Seasonal Recipes

Bonus Lecture 2—Transcript

Equipping the Home Bar
It's easy to set up a home bar. You just need the right spirits, the right equipment, and the right glassware. Let's talk about what spirits you need.

Make sure you have one of each of these from the main categories of spirits:

- Vodka: neutral vodka, and if you want, flavored vodka
- Gin: London dry gin or a compounded gin
- Rum: light/white rum, spiced rum
- Tequila: blanco for cocktails
- Whiskey: blended whiskey for cocktails, bourbon, and single malt
- Brandy: VSOP cognac (This cognac is easy to find and is great in cocktails or for sipping.)
- Liqueurs: Cointreau, Kahlúa, Baileys, amaretto, sambuca, Campari

You'll also need Angostura bitters, cream sherry, sweet vermouth, and dry vermouth. This is a long list, I know, but you can build your bar up slowly, buying one or two items at a time. Just don't drink faster than you buy!

Mixers
A good tip when making cocktails at home is to start with the cheaper ingredients, then build your cocktail with more expensive ingredients. This way, if you make a mistake and have to start over, you're losing only the cheaper ingredients.

Stock a range of mixers for your home bar. You'll need:

- Club soda or soda water; be aware that these mixers can have additives in them, such as salt and other flavorings.
- Tonic water, which is a little more bitter than club soda, but it also has been sweetened and can be used for such cocktails as a Gin and Tonic.
- Ginger ale, which goes great with spicy brown spirits, such as whiskies.
- Lemon-lime soda, such as 7-Up or Sprite.
- Cola, such as Coke or Pepsi, for a Rum and Coke, for example.

Garnishes
Garnishes don't just decorate your drinks; they add aroma and flavor to them.

For garnishes, you'll need:

- Lemons, limes, and oranges (for citrus garnishes)
- Mint (for example, spearmint)
- Cilantro, and parsley (for herb garnishes)
- Green olives or maraschino cherries for Martinis and Old-Fashioneds
- Pineapple, berries, and melons for tropical drinks
- Kosher salt to rim drinks

Most garnishes are perishable, so buy them right before you need them.

Five Tips for Making Impressive Cocktail Garnishes

The old adage that an ounce of image is worth a pound of performance clearly relates to cocktails. Garnishes are the perfect way to make any cocktail look delicious, impressive, and professional, even if you've never bartended a day in your life.

Fruit Garnishes

It's important to choose the right type of orange for garnishes. Navel oranges, although not great for juicing, have a thicker skin than juicing oranges and look good for garnishes.

When you're slicing citrus fruits (such as lemons, limes, or oranges) for garnishes, cut both ends off the fruit demo so that it stands up. After you've cut the ends off, stand it up, and cut down the center through the poles. Turn each half flat side down and cut along the equator. Then cut into half-inch slices.

Lemons and limes are often used as garnishes for cocktails.

If you want your garnish to look ultra-professional, make a cocktail flag. Place an orange slice on the edge of the glass, then take a maraschino cherry and secure it with a toothpick so that the cherry is as close to the middle of the orange as possible. Voila! Cocktail flags are used for Whiskey Sours and Collins cocktails.

Slices are another attractive garnish. Slice the fruit into circles. Cut a slit in the middle, and there you have a slice garnish.

Lemons will remain fresh for two days if you refrigerate them and cover them with a damp cloth. However, limes oxidize quickly.

Spiral and Zest Garnishes
To make a spiral garnish, you need a channel knife, which you can get at any kitchen supply store. Cut off one end of the fruit, then start cutting with the knife where you see the rind. Make a sharp left and cut in a spiral around the fruit.

Cut off the ends of the spiral to make it look neater and twist it over the surface of the drink so you catch those oils. Place the garnish decoratively on the rim or side of the glass. I've also seen some bartenders put them in the drink.

If you are intimidated by the spiral, don't worry; one of the easiest citrus garnishes to make is the zest. The zest is just the outside, colored part of the peel of lemons and oranges. Take a knife or a peeler and cut an oval in the peel (about ¾ of an inch wide by 1 1/2 inches long—about the size of a half-dollar coin), making sure you're not getting any of the white part.

Squeeze the zest so that it shoots the oil over the cocktail. Then take the slice and rub the rim of the glass. You can do this, say, with lemon zests for Martinis to enhance the flavor of the gin.

Flaming Twists
Want to take it up to another level entirely? For you pyrotechies out there or if you are feeling brave, you can try a flaming twist. Again, this is done with lemon or orange zests.

Let's have our mixologist Gina Chersevani show us how to do this.

- For this technique, you hold a lit match or a lighter in one hand and the zest in the other.

- Hold the zest by the sides, with the colored side of the peel facing down. Handle the zest gently, because if you squeeze it, the oils will come out and you'll have nothing to flame.

- Position the zest about 4 inches above the cocktail. Make sure the flame will be far enough away from the drink so you don't get any smoky film on the glass.

- Move the match between the drink and the zest (a bit closer to the zest than the drink).

- Then snap the zest sharply, which releases the oil, catching the flame on the surface of the drink.

Sometimes you get just a little flame, but sometimes it really flares up, so be careful. Other than looking really impressive, what this technique is doing is toasting the orange oil, which adds a different flavor element and depth to your cocktail.

Rimming a Cocktail Glass

Rimming a cocktail glass makes it look a little frosted and adds yet another dimension to the taste. You see this done for drinks like the Margarita.

You'll need some lime (or lemon), a plate, and coarse salt (or kosher salt).

Margaritas are often rimmed with salt.

Cut the wedge so that you have some juice coming out and wet the outside of the rim of the cocktail glass. Don't wet the inside because you don't want the salt to fall into your drink.

Then, hold your glass so that the stem is parallel to the bar surface and dab the rim into the salt while turning the glass slowly until the whole rim is covered.

And there you have it—five tips for great-looking cocktails. I hope this has inspired you to make your own creations or just to have fun. Cheers!

Food and Cocktail Pairing

Pairing cocktails and spirits with food is a hot trend. Chefs and mixologists have realized that spirits offer more versatility and freedom than other beverages with dinner. Why? You can change and tweak a cocktail to pair perfectly with any dish as long as you know the key elements of pairing: balance, texture (or mouth feel), and flavor. An acronym that may help you remember this is BFF (balance, feel, and flavor).

Balance

First, let's talk about balance. When I say balance I'm really talking about two things:

- Matching the weight or body of the cocktail with the food
- Matching the tastes (sweet, sour, salty, bitter, or savory).

The first tip for great pairings is to match weight with weight (or body with body). This means if the dish is rich and full-bodied, don't pair it with a delicate and subtle cocktail and vice versa.

To demonstrate this concept, here's an extreme test you can try at home.

Get some slices of chicken or turkey. Next, make a White Russian (1 oz each of vodka, Kahlúa, and cream on the rocks). Taste the turkey and then the White Russian. What happens?

The weight of the White Russian overpowers the turkey instead of enriching the flavor.

You can see the importance of matching the weights of the food and drink. Serve full-bodied, rich drinks, such as the White Russian, with desserts or at the end of a meal. Serve more delicate drinks, such as the Martini and the Mojito, with lighter foods—a dry Martini with seared sea bass, for example.

Also make sure that the sweetness of the cocktail is balanced with the dish. In some cases, you may need to adjust the cocktail to reduce the sugar (for example, using dry vermouth in your Martini or Manhattan versus sweet

vermouth). Otherwise, the sweetness may overpower the dish or make it taste sour.

At times, you may need to increase the sugar in a dish so that it balances with the cocktail.

Another good tip: To make cocktails more food friendly, choose cocktails that are a touch lower in alcohol.

One of the reasons many people think spirits can't be paired with food is that they are higher in alcohol content compared to wine. Spirits have about 40% abv; cocktails are about half that, between 17 and 25% (or more) abv; and wine can be anywhere from 5 to 15% abv.

What does the alcohol content do to your palate? Let's try this test.

Here, I have a whiskey (you can use bourbon, scotch, Irish whiskey… whatever you've got handy).

To calibrate your palate, taste the whiskey first. Notice the impression of alcohol on your palate, especially the impression of heat.

Here, I have some deli turkey with black pepper around the edge. You can also use pepper jack cheese or anything with a spicy kick to it.

As you taste the turkey, make sure you taste the black pepper edge to get some spicy heat from it.

Now taste the whiskey again. Notice a difference? The impression of heat on your palate is amplified. The whiskey tastes "hotter."

If your motto is "the hotter, the better," you may like this taste. But for most people, the impression of heat is a bit too much. So with spicy dishes, you may want to tone down the drink.

When you're deciding on pairings, think of common associations—what goes with what? Pair something spicy with something cooling, like a

cucumber or mint Mojito. At PS7's in Washington, their Executive Chef Peter Smith did a pairing for us of roasted pork loin with a bacon and port reduction. They served it with gnocchi and port-infused figs. Their head mixologist, Gina Chersevani, paired this with a Port Whiskey Sour.

She mixed 1 ½ oz. of rye whiskey, 1 oz. of port, and ½ oz. of fresh lemon, shook it, and served it over ice with a lemon peel garnish. It was smoky but light.

You probably won't be trying to copy this menu, but it's a good example of how you can sometimes use something acidic to cut through the flavors of heavy, rich foods and balance them out. The acidity, sweetness, and depth of the drink refreshes the palate between each bite. That's a principle you can follow when you're pairing at home.

Feel (Texture)
When pairing cocktails with food, you also have to consider texture or Feel in our BFF acronym. A look at some of the base ingredients will help you in this area. For example, tomato juice (such as in a Bloody Mary) has a very different texture from champagne or soda water (such as in a Mojito), so you wouldn't pair these cocktails with the same foods.

Flavor
Be sure to consider flavor when you pair cocktails and spirits with food. Here, you can take one of two approaches: complementing or contrasting flavors.

Complementing is connecting a flavor in the cocktail to the same flavor in the dish. This can be quite easy to do.

An example of complementing flavors could be a wild mushroom or shitake ravioli or risotto paired with scotch. Wild mushrooms and shitakes are a bit earthy and smoky, and this characteristic creates a connection to some of those peaty aromas in the scotch. Serve lime Margaritas with shrimp cerviche for another complementary pairing.

Contrasting is the opposite of complementing; it takes an element in the cocktail or spirit and counters it in the food so that both flavors stand out or a new flavor is created.

For example, Caribbean spice dishes pair nicely with rum-based drinks that have a bit of fruit in them. The fruit contrasts with the spices and the savory nature of the fish and beef dishes.

A lot of high-end restaurants are offering spirit and food pairings. You should try one—they're fun!

Infusing Vodka
You can buy flavored vodkas, but you might find it more fun to make your own. Making your own flavored vodka also allows you to control the flavor, and many times it can be better and cheaper.

Try making your own vanilla vodka, which is great in Martinis and sweet drinks. It's also a snap to make chili pepper vodka—that's dynamite in a Bloody Mary. And finally, though a little more challenging, you can even make bacon vodka—and that's great in any savory drink, believe it or not.

Lemon Vodka
Let's make some lemon vodka. This one's colorful and easy. You will need:

- 1 lemon (or you can use an orange or lime, as well)
- 1 bottle of vodka

Lemon peels have oil in the skins, and that's where the flavor comes from. Take a knife and cut strips of peel from the lemon, or you can use your channel knife for long, swirly strips.

Make sure you avoid or remove the pith or white part because it will make the vodka bitter.

Put the peel in a glass container and pour vodka over it, or just drop the peel into the vodka bottle, put the cap on, and wait for about two weeks.

Lemon-flavored vodka can be added to cocktails, such as Martinis, for a nice lemon flavor. You also can put your infused vodkas in pretty bottles, and they'll make great gifts, too.

Until next time, cheers!

Recipes

Frozen Daiquri

For this recipe, you'll need:

- 1 ½ oz white rum
- 1 ½ oz simple syrup
- ½ oz maraschino liqueur
- 1 oz lime juice

Blend all of the ingredients with about a handful of ice and strain into a frozen drink glass.

White Russian

For this recipe, you'll need:

- 1 oz Kahlúa
- 1 oz vodka (or vanilla-infused vodka)
- Add cream to top

Serve on the rocks in a tumbler.

Port Whiskey Sour (Recipe, Gina Chersevani)

For this recipe, you'll need:

- 1 ½ oz rye whiskey
- 1 oz port
- ½ oz lemon juice, freshly squeeze
- Lemon peel for garnish

Shake with ice. Serve in rocks glass over ice with a lemon peel garnish.

Sazerac (Mixologist: Owen Thomson)

For this recipe, you'll need:

- 2 ½ oz rye whiskey
- ¼ oz simple syrup
- 4-5 dashes Peychaud's Bitters
- A dash absinthe
- Lemon peel for garnish

Fill a rocks glass with ice to chill. Add absinthe, twirl the glass to coat, and pour out. Add the rye whiskey, simple syrup, and bitters. Stir and strain into a rocks glass. Serve neat with a lemon peel.

Old Fashioned (Mixologist: Owen Thomson)

For this recipe, you'll need:

- 2 oz bourbon
- ¼ oz simple syrup or 1 sugar cube, ground up
- 2-3 dashes Angostura Bitters
- Lemon or orange peel for garnish

Mix in rocks glass. Add single big cube of ice. Garnish with peel.

Seasonal Cocktails
The seasonal cocktails we'll make in this session will have guests raving at your holiday parties.

Fall Cocktails:
Switchblade (Mixologist: Gina Chersevani)

For this recipe, you'll need:

- 1 oz cilantro blanched in simple syrup (drop in boiling water 1 c water: 1/2 c. sugar; pull out immediately)
- 1 ½ oz silver tequila
- 1 oz lime
- 2 ½ oz soda water
- 3 dashes celery bitters "Bitter Truth" brand

Build inside glass.

Eminent Domain (Mixologist: Eric Holzherr; his recipe)

For this recipe, you'll need:

- 1 oz Bluecoat Gin
- ¾ oz ginger cognac liqueur
- ¼ oz Amaro
- ¼ oz fresh squeezed lemon juice
- 1 oz pressed apple juice

Shake all ingredients over ice and strain into an ice-chilled Martini glass. Optional garnish: float an apple disk.

Martinez (Mixologist: Josh Berner)

For this recipe, you'll need:

- 1 ½ oz gin
- 1 ½ oz sweet vermouth
- ¼ oz maraschino liqueur
- 1 dash orange bitters
- Lemon twist for garnish

Stir ingredients with ice. Strain into a chilled cocktail glass.

Twist the lemon peel over the drink, rub it along the rim, and drop it in the drink.

Winter Cocktails:
Wisdom PB & J (Mixologist: Eric Holzherr; his recipe)

For this recipe, you'll need:

- 1 oz vodka
- 1 oz hazelnut liqueur
- 1 oz vanilla vodka
- ¾ oz Crème de Cassis (good quality)
- Small dash fruit jam
- Blackberries or raspberries for garnish

Shake over ice and strain into an ice-chilled Martini glass. Garnish with a row of blackberries or raspberries.

Koco Special, Low-cal (Mixologist: Gina Chersevani; her recipe)

For this recipe, you'll need:

- 1 ½ oz tequila (silver)
- 3 oz cocoa-coconut water
- 1 oz ginger syrup (make or buy; recipe below)
- Ginger syrup: 1 oz chopped ginger; 1 c. water; 1 c. powdered Sucralose/Splenda. Boil 7-8 min., strain, reserve liquid

Shake; pour into coupette or Martini glass. Add a pinch of Kojite or other cinnamon.

Blood and Sand (Mixologist: Josh Berner)

For this recipe, you'll need:

- ¾ oz scotch
- ¾ oz sweet vermouth
- ¾ oz freshly squeezed blood orange juice
- ¾ oz cherry-flavored liqueur, such as Cherry Heering
- Thin slice of orange, for garnish

Shake all ingredients with ice. Strain into a chilled cocktail glass. Garnish with the slice of orange.

Ponche de Crème (Trinidad Eggnog) (Mixologist: Duane Sylvestre)

For this recipe, you'll need:

- 12 raw eggs (whisk with zest of one lime)
- 6 (12 oz) cans evaporated milk (add and whisk in)
- 3 (14 oz) cans condensed milk (add and stir)
- 1 liter gold rum (aged; good quality)
- $^1/_3$ whole nutmeg freshly grated
- 10 dashes of Angostura bitters

Make in large punch bowl. Serve in old-fashioned glass over crushed ice, or chill with large block of ice in punch bowl. Grate nutmeg over glass if desire.

Spring Cocktails:
Corpse Reviver #2 (Mixologist: Josh Berner)

For this recipe, you'll need:

- ¾ oz gin
- ¾ oz Cointreau
- ¾ oz Lillet Blanc
- ¾ oz fresh lemon juice
- 3-5 drops absinthe
- Cherry garnish (Cover dried cherries with rum. Soak until needed.)

Shake all ingredients with ice. Strain into a chilled cocktail glass. Garnish with a cherry. Source: Harry Craddock's *The Savoy Cocktail Book*. "Four of these taken in quick succession will unrevive the corpse again."

Negroni (Mixologist: Erik Holzherr; his recipe)

For this recipe, you'll need:

- 1 ½ oz London dry gin
- ¾ oz Campari
- 1 oz red vermouth (also called "sweet" or "Italian")
- Orange slice for garnish

Stir all ingredients with ice and strain into an ice-filled rocks glass. Garnish with an orange slice.

Summer Cocktails:
The Few, The Proud, the Mezcal (Mixologist: Gina Chersevani; her recipe)

For this recipe, you'll need:

- 2 oz fresh pineapple muddled until juicy
- 2 oz San Luis Mezcal
- ½ oz sugar beet syrup (make or buy; recipe below)
- Soda water
- Mint for garnish
- Beet syrup: 1 c cleaned, chopped fresh beets; 1 c water; ½ c sugar. Boil 7 min., strain, reserve liquid

Muddle pineapple until juicy. Add Mezcal, sugar beet syrup, and ice to a Collins glass. Top off with soda water and garnish with mint.

Salsa Verde (Mixologist: Gina Chersevani)

This recipe is courtesy of Andy Seymour, one of America's top mixologists with whom Jennifer Simonetti-Bryan has judged at The Ultimate Spirits Competition.

For this recipe, you'll need:

- 1 ¾ oz Del Maguey Mezcal Vida
- 1 ½ oz fresh cucumber juice
- ½ oz fresh lemon juice
- ½ oz agave nectar
- Fresh cilantro

Put 6 cilantro leaves in a mixing glass, add remaining ingredients and fill with ice. Shake hard and strain over crushed ice in a highball glass. Garnish with fresh cilantro leaves.

Chocolate Martini (Mixologist: Josh Berner)

For this recipe, you'll need:

- 1 ½ oz Godiva original chocolate liqueur
- 1 ½ oz vodka
- 1 oz cream (or skim milk to save calories)
- Dark chocolate bar for garnish

Mix all ingredients in a cocktail shaker filled with ice and shake. Pour into a chilled cocktail glass. Shave chocolate over top. For a more complex chocolate flavor, add Crème de Cacao. There are many variations for this drink made with vanilla vodka, Crème de Menthe, Cointreau, Kahlúa, and others. For a low-fat version, use skim milk or even no dairy at all.

Brandy Van Alexander (Mixologist: John Hogan; his recipe)

For this recipe, you'll need:

- 1 oz brandy (Courvoisier VSOP)
- 1 oz coffee liqueur (Fair Trade Coffee Liqueur)
- 1 heaping tablespoon of vanilla ice cream, softened (or more to taste)

Build in a brandy snifter or ice cream glass. Stir to blend.

Making Your Cocktails More Figure Friendly
When you are trying to watch your weight, cocktails can be one of those things that can derail your diet.

Generally, one shot of 80-proof (or 40% abv) spirit is about 100 calories. When you are blending a few shots of different types of spirits, these calories can really add up. For example, a 12-ounce Long Island Ice Tea has 520 calories and a Piña Colada has more calories than a Big Mac.

So what do you do when you are trying to watch your weight and you still want a cocktail?

Tip 1: Go for Club Soda Mixers
Club soda has hardly any calories and is great with an infused spirit, such as lemon vodka. Be careful, though—watch out for sweetened fruit-flavored club sodas and tonic water.

Tip 2: Avoid Sweet Touches
The trend in cocktails is to sugar the rim, or drizzle in chocolate syrup, or add any number of creative sweet touches. Though they are completely delicious, all of these add calories. For example, a chocolate Martini is easily more than 400 calories! Use skim milk and skip the toppings.

Tip 3: Make Smart Substitutions
Some people replace simple syrup (which has 50 calories per ounce) with a low-calorie sugar substitute (such as Splenda) or with agave syrup. Agave syrup is a bit stronger, so you don't need to use as much of it.

Try substituting juice for the liqueurs in some cocktails. For example, use orange juice instead of triple sec in a Margarita or Cosmo. Or use diet sodas for mixers, as in a Rum and Diet Coke.

All of these tips will help keep you on track and on top of your calories while enjoying your favorite libations. Cheers!

Glossary

aguamiel: The liquid fermentable sugar derived from cooked agave; used in making tequila.

añejo: "Mature"; refers to tequilas that spend a minimum of 12 months in the barrel.

aperitif: A type of bitters consumed before a meal.

attack: The first phase of savoring; the first few seconds after a spirit is sipped, when the most volatile compounds reach the taste receptors.

batch system: The system of distillation used in pot stills, in which the liquid is sent through the still multiple times to reach the desired alcoholic strength.

beer still: A single-column still used to distill bourbon and some other spirits.

blanco: "White"; refers to an unaged tequila.

cachaça: A sugarcane-based spirit from Brazil.

Charentais still: A type of pot still used in making cognac.

column still: A still that has two chambers, one with a preheater and condenser and the other with a heating chamber and column separated by perforated plates.

complexity: Refers to the number of different flavors or layers of flavors that are tasted in a spirit.

compounding: The cheapest method of flavor extraction; a simple process of blending essences and concentrates into a base spirit.

congeners: Organic compounds, such as ketones, esters, and aldehydes, that occur as a byproduct of fermentation and provide flavor and aroma to spirits.

digestif: A type of bitters consumed after a meal; there are two categories of digestifs, sweet and overtly bitter.

eau de vie: Literally, "water of life"; a French term for distillate.

extra añejo: Refers to tequilas that see a minimum of 4 years in wooden barrels.

finish: The last phase of savoring, during which a final set of flavors lingers on the palate.

green malt: Germinated barley.

heads: The first fraction of molecules to vaporize in the distillation process; these are the most volatile compounds, some of which are toxic.

heart: The middle fraction of vaporizing molecules in the distillation process; this portion contains alcohol and flavor compounds.

horno: An oven used for cooking the *piñas* in making tequila.

infusion or **digestion**: A method of flavor extraction, similar to maceration but using heat. The process works under the same concept as steeping a teabag in hot water and is usually reserved for dried leaves, plants, and herbs in making liqueurs.

joven: "Young"; refers to unaged tequilas that have some coloring.

length: Refers to the amount of time the flavors of a spirit linger on the palate.

Lincoln County process: A process used in making some Tennessee whiskies, in which the whiskey is run slowly through a maple charcoal filter

before being put in a barrel. The charcoal "buffs" the spirit and leaches some of the harshness out of it.

macerate: The process of soaking something in liquid until it softens. In making gin, some producers macerate botanicals in the spirit before distillation.

malting: The first step in making whiskey; the process of changing the starch in barley into fermentable sugar.

marc: A French brandy made from pomace.

mashbill: The grain recipe used to make a mash.

mixto: A tequila that is made with at least 51 percent agave; the other 49 percent can be from other sugars, such as molasses or corn-based sugar syrup.

navy blend or **navy rum**: A blend that combines different styles of rum.

overproof: A spirit that contains more alcohol than proof (meaning 40 percent abv).

peat: A semi-carbonized, partially decayed vegetation that comes from bogs, moors, and swamp forests. Sometimes used to fuel kilns in which green malt is heated in the process of making whiskey.

percolation: A method of flavor extraction in the production of liqueurs that uses heat. The spirit is put in the bottom of a tank and repeatedly pumped through the flavoring ingredients, which are at the top.

piña: The root of the agave plant; used to make tequila and mezcal.

pisco: South American brandy known for its rich, aromatic character.

pot still: A type of still that has a preheater (a pot) for boiling liquids.

pulque: A liquor made by the ancient Aztecs from the fermented sap of the agave plant.

reposado: (1) Dark rum; usually aged for a minimum of 3 years in charred oak barrels. (2) The first level of tequila that spends some time in oak, up to 1 year.

retort: A copper vessel that holds washes from previous distillations. Vapor from the current distillation flows into the retort and boils the liquid held there, allowing more vapors to be released and more congeners (flavor compounds) to be collected.

rhum agricole: Literally, "agricultural rum"; a spirit made from sugarcane juice.

rhum industriel: Literally, "industrial rum"; a molasses-based spirit made in some of the French islands or former colonies.

solera system: A system of aging brandy used in Spain, in which brandies of different ages are blended in a tier arrangement of barrels.

tails: The last fraction of molecules to vaporize in the distillation process; usually heavier compounds, some of which are toxic.

terroir: A French term for the factors that influence the taste of a wine from a specific location, including the soil, topography, and climate.

wash: Any alcoholic liquid resulting from fermentation that is destined for distillation.

wort: The liquid that derives from the mashing process, containing fermentable sugars.

Spirits Needed for Tastings

Lecture 1

- Russian Standard vodka (wheat- or grain-based vodka)
- Chopin (or potato-based vodka)
- Beefeater (or other London dry gin)

Lecture 2

- Single-malt scotch (preferably peated)
- Irish whiskey
- Bourbon
- Rye whiskey
- Macallan Sherry Oak
- Fine Oak scotch

Lecture 3

- *Rhum agricole* (Depaz)
- White rum
- Gold rum (Mount Gay)
- Dark rum
- Jamaican rum
- Spiced rum or navy rum (Captain Morgan)

Lecture 4

- Silver rum
- Blanco tequila
- Mezcal
- 100% agave tequila (same age as the mezcal, preferably reposado)
- Highland tequila (or a blend tequila)
- Lowland Herradura tequila
- Joven/gold tequila
- Añejo tequila

Lecture 5

- Whiskey
- Cognac VS
- Cognac VSOP
- Cognac XO
- Armagnac
- Calvados

Lecture 6

- Amaretto
- Drambuie
- Cointreau
- Generic triple sec
- Grand Marnier
- Absinthe or Absente
- Chartreuse or other herbal liqueur

Cocktail Recipes

Lecture 1

Bloody Mary

- 1 ½ oz vodka
- 4 oz tomato juice
- ¼ oz lemon juice
- 4 dashes of Tabasco
- 2 dashes Worcestershire sauce
- Pinch of salt and pepper
- Celery stalk for garnish

Combine all ingredients in a mixing glass and roll it back and forth to mix. Strain into a large goblet or pint glass, three-quarters filled with ice. Garnish with the celery stalk. For a "carnivorous cocktail," use bacon-flavored vodka.

Martini

- 1 ½ oz gin
- ½ oz dry vermouth
- Lemon peel or olive for garnish

Pour all ingredients into a mixing glass with ice cubes. Stir well. Strain into a chilled Martini cocktail glass. Squeeze oil from a lemon peel onto the drink, or garnish with an olive.

For an extra dry Martini, use only a dash of vermouth rather than ½ oz.

For a Dirty Martini, use 3 oz gin or vodka and ¼ oz olive brine.

For an Apple Martini substitute 2 oz of apple vodka for the gin and vermouth and add 1 ½ oz cranberry juice.

Lecture 2

Mint Julep (Bourbon)

- 2 oz bourbon
- ½ oz simple syrup
- 2 tender sprigs of fresh mint

In a Highball glass, muddle one sprig of mint with simple syrup. Fill the glass with crushed ice and add the bourbon. Swirl with a bar spoon until the outside of the glass frosts. Top with more ice and garnish with a sprig of mint.

Manhattan (Rye Whiskey)

- 2 oz rye whiskey
- 1 oz sweet vermouth (or dry vermouth for a drier cocktail)
- 2 dashes of Angostura bitters
- Cherry for garnish

Pour all ingredients into a mixing glass over ice and stir with a bar spoon. Strain into a chilled cocktail glass and garnish with the cherry.

For a Rob Roy, substitute scotch for the rye whiskey.

For a Harvard, substitute brandy for the rye.

For a Star Cocktail, substitute applejack or Calvados for the rye.

Irish Coffee

- 1 ½ oz Irish whiskey
- Coffee
- 1 tsp sugar
- Whipped cream

Combine whiskey, coffee, and sugar in a toddy glass. Ladle 1 inch of whipped cream on top.

For a Café Amore, substitute amaretto and brandy for the Irish whiskey and sugar.

For Calypso Coffee, use rum and Kahlúa in place of the Irish whiskey.

For a Royale Coffee, substitute cognac for the whiskey.

For a Mexican coffee, use tequila and Kahlúa.

Lecture 3

Daiquiri

- 1 ½ oz light rum
- 1 oz simple syrup
- ¾ oz fresh lime juice

Shake all the ingredients with ice and strain into a chilled cocktail glass.

Mojito

- 1 ½ oz white rum
- 1 oz simple syrup
- ¾ oz fresh lime juice
- 2 dashes of Angostura bitters (optional)
- 2 sprigs of fresh mint
- Soda water (to top up glass)

Muddle one mint sprig with the simple syrup and lime juice in the bottom of a mixing glass. Add the rum (and the bitters if you'd like), add ice, shake, and strain over cracked ice into a Highball glass. Top up with soda and garnish with the other mint sprig.

Punch

- 19 oz gold rum
- 12 oz grenadine syrup
- 1 oz Angostura bitters
- 4 oz lime juice
- 13 oz sugar syrup
- 18 oz water
- 1 tsp nutmeg
- Cherry for garnish

Mix the lime juice, water, and sugar syrup. Combine the mixture with grenadine syrup and rum. Add the Angostura bitters and stir well. Sprinkle each cup with grated nutmeg and garnish with a cherry.

Lecture 4

Margarita

- 1 ½ oz tequila (silver or slightly aged reposado)
- 1 oz Cointreau
- ¾ oz fresh lime juice
- Lime wedges
- Coarse salt

Before combining the ingredients, salt the rim of a chilled cocktail glass by rubbing a lime wedge around it, then dipping the rim into a saucer of coarse salt.

To make the cocktail, combine the ingredients in a mixing glass with ice. Shake well and strain into the salted cocktail glass; garnish with a lime wedge or a twisted peel.

Fancy Tequila Cocktail

- 1 oz tequila
- 1 oz Grand Marnier
- 1 ½ oz fresh orange juice
- ¼ oz fresh lime juice
- Flamed orange peel (for garnish)

Shake all ingredients into a chilled Martini glass. Garnish with a flamed orange peel.

Salsa Verde

- 1 ¾ oz Del Maguey Mezcal Vida
- 1 ¼ oz fresh cucumber juice
- ½ oz fresh lemon juice
- ½ oz agave nectar
- Fresh cilantro

Put six cilantro leaves in a mixing glass, add remaining ingredients, and fill with ice. Shake hard and strain over crushed ice in a Highball glass. Garnish with fresh cilantro leaves.

Lecture 5

Brandy Alexander

- 1 oz brandy
- 1 oz dark crème de cacao
- 2 oz heavy cream
- Pinch of nutmeg for garnish

Pour all the ingredients with ice into a cocktail shaker and shake for a few seconds. Place a strainer on the shaker and pour into a small cocktail or Martini glass. Garnish with a pinch of nutmeg.

Sidecar

- ¾ oz lemon juice
- 1 oz cognac
- 1 oz Cointreau
- Orange peel for garnish

Pour all the ingredients into a shaker with ice, shake, then strain into an iced Old-Fashioned glass. Garnish with an orange peel, or serve in a small cocktail glass with a sugared rim.

Brandy Amanda

- 1 ½ oz cognac
- 1 ½ oz apricot brandy
- 3 oz lemon-lime soda
- Lemon wedge for garnish

Shake the brandy and cognac in a cocktail shaker with ice, then strain into an Old-Fashioned glass. Add lemon-lime soda, stir, and garnish with the lemon wedge.

Lecture 6

Angostura Suave

- 1 oz vodka
- ¾ oz Kahlúa
- ½ oz Drumgray Scottish cream liqueur
- 1 oz heavy cream
- 3–4 dashes Angostura aromatic bitters

Mix together all ingredients but the bitters. Shake and taste. Add three dashes of bitters. Shake and taste. Add a fourth dash. Shake and taste.

Pour into a cocktail glass that can be rimmed with honey and chocolate.

The Cosmopolitan

- 1½ oz citron vodka
- ½ oz Cointreau
- ¼ oz fresh lime juice
- 1 oz cranberry juice
- Orange peel (for garnish)

Shake all the ingredients with ice. Strain into a chilled cocktail glass. Garnish with an orange peel.

For a different flavor, substitute peach schnapps for the orange liqueur or use limoncello instead of the lime juice.

St. Moritz Pousse Café

- ¼ oz raspberry syrup
- ¼ oz anisette
- ¼ oz Parfait Amour
- ¼ oz Yellow Chartreuse
- ¼ oz Green Chartreuse
- ¼ oz curaçao
- ¼ oz cognac

Carefully add the ingredients to a cocktail glass in the order given.

Bonus Lecture 1

Frozen Daiquiri

- 1 ½ oz white rum
- 1 ½ oz simple syrup

- ½ oz maraschino liqueur
- 1 oz lime juice

Blend all ingredients with a small scoop of ice and strain into a frozen drink glass.

Black Russian

- 1 oz Kahlúa
- 1 oz vodka

Combine ingredients in an Old-Fashioned glass. Add ice and stir.

Rusty Nail

- 2 oz scotch
- ¾ oz Drambuie

Combine the scotch and Drambuie in an Old-Fashioned glass. Add ice and stir.

Mimosa

- 2 oz orange juice
- 4 oz sparkling wine
- Combine ingredients and pour into a flute.

Whiskey Sour

- 1 ½ oz American blended whiskey
- ¾ oz lemon juice
- 1 oz simple syrup

Shake all ingredients and pour into an Old-Fashioned glass.

Whiskey Fizz

- 1 ½ oz American blended whiskey
- ¾ oz lemon juice
- 1 oz simple syrup
- 3 oz lemon-lime soda

Shake all ingredients and pour into a Highball glass filled with ice. Top up with lemon-lime soda.

The Toddy

- ½ oz brandy or rum (or both)
- 1 tsp honey
- ½ oz lemon juice

Combine ingredients in a mug and fill with hot water (or tea).

Hot Buttered Rum

- 1 ½ oz dark rum
- 1 tsp brown sugar
- 1 tsp butter

Combine ingredients in a mug and fill with hot water.

Vodka Infusion Recipes

Vanilla Vodka
For this recipe, you'll need:

- 2 vanilla bean pods
- Bottle of vodka (you may want to pour a splash out of the bottle)

Don't score the vanilla bean pods. It's a myth that you have to open them to get the flavor. They will have plenty without cutting into them. If you do cut into them, the seeds get everywhere and the infusion becomes bitter.

Put the two vanilla beans into the vodka, store it in a cool, dry place for 5–7 days and voila! Vanilla-infused vodka. It doesn't get any easier than that.

Chili-Infused Vodka
For this recipe, you'll need:

- 2–3 chilies
- Bottle of vodka

Make slits into the chili, but make sure the seeds don't come out.

Place the slit chilies in the bottle. Cap it and place in a cool, dry place for 5 days, tasting occasionally to check the intensity of the spice. There is a saturation point where it won't get any hotter, but you definitely want to test it.

Use chili-infused Vodka to add another dimension to cocktails such as a Bloody Mary. That'll wake you up at brunch!

Bacon Vodka

Lastly we will cover something you might find bizarre. Bacon-Infused Vodka. This is done by a process called "fat washing."

For this recipe, you'll need:

- 4 oz of rendered bacon fat (from about 1 lb of bacon)
- Bottle of vodka
- Coffee filter

Take one pound of bacon and cook it on low or medium heat so the fat melts away from the bacon without getting too brown or burnt (otherwise those flavors are going right into your drinks). After about 10 minutes or so when the bacon is crispy, remove the bacon.

Pour the fat through a metal sieve into a jar to catch any solids. Then add the vodka.You'll notice that bacon fat and vodka don't mix very well (like oil and water) so you need to stir it every 15–20 minutes for up to 4–5 hours.

Next, separate the fat. Let the vodka settle so that the fat comes up to the surface. Then put the container in the freezer.

Once the fat on the top is solid, remove the fat with a spoon. Pour the now bacon infused vodka through a coffee filter or through a Brita filter to remove any remaining fat.

What you are left with is bacon-infused vodka for an incredible twist on Bloody Mary's or other savory cocktails.

Extra Cocktail Recipes

Poinsettia
This cocktail is light, refreshing, and can be served as an aperitif for the winter holidays.

- For this recipe, you'll need:
- 2 oz Cranberry Juice
- 4 oz Champagne
- ½ oz Cointreau

Pour cranberry juice into a champagne flute and fill with champagne. Top with a float of Cointreau.

A float is when you layer the Cointreau on top of the drink without having it mix with the other ingredients. Here are two ways to do that:

Use a pourer for the Cointreau and pour with the pourer curved up. Make sure that it's touching the side of the glass. This allows the Cointreau to float on top.

An easier way is to use the back side of your bar spoon. With the bottom of the spoon facing up, place it on top of the champagne with the tip of the spoon touching one side of the glass. Then pour the Cointreau on the back of the spoon so that it just floats on top and doesn't mix.

Your choice—either way works fine!

Faux Eggnog
For this recipe, you'll need:

- 1 oz vodka
- 1 oz white crème de cacao
- 2 oz heavy cream
- 3 dashes angostura bitters
- Freshly grated nutmet for dusting

Shake the ingredients well with ice. Strain over crushed ice in a London dock glass. Dust with nutmeg.

French 75
For New Year's Eve we have a classic cocktail called the French 75. It's called a French 75 because it was created in Paris in 1915 and was said to have the same kick as a French 75 millimeter howitzer artillery gun.

For this recipe, you'll need:

- 1 oz brandy
- ¾ oz simple syrup
- ½ oz lemon juice
- Champagne

Shake the first three ingredients well with ice and strain into a goblet with ice. What makes this French (besides the brandy) is the champagne you use to top it up.

Champagne Cocktail
Here's another elegant way to serve champagne. According to Dale Degroff, one of the world's preeminent mixologists, dates this recipe back to 1862 from a cocktail book called *The Bon Vivant's Companion* by Jerry Thomas.

For this recipe, you'll need:

- Champagne
- Sugar cube soaked with Angostura bitters

Place the Angostura-soaked sugar cube in the bottom of a champagne glass and fill the glass with champagne. Pour slowly to avoid the foam coming up and bubbling over. Garnish with a lemon peel.

Black Russian

The Black Russian is a rich cocktail that makes a nice after-dinner treat. It's made of equal parts vodka and coffee liqueur:

- 1oz Kahlúa
- 1 oz vodka

The name of the cocktail—Black Russian—comes from the use of vodka (a favorite Russian spirit) and the color of the coffee liqueur (black)—Black Russian. Add an ounce of cream for a White Russian.

Punch

The English introduced punch to America in the late 17th century, but rum made it all the rage in high society. It's said that even Mozart relaxed with several bowls of rum punch on the night he completed *Don Giovanni*.

The widely accepted origin of the word "punch" is the Hindi word *panch*, which means "five." The original punches were based on five ingredients: alcohol, sugar, lemon, water, and tea (or spices). You will notice lots of rum punch recipes with five ingredients.

For this recipe, you'll need:

4 oz lime juice

- 1 oz Angostura bitters
- 12 oz grenadine syrup
- 19 oz gold rum
- 13 oz sugar syrup
- 1 tsp nutmeg
- 18 oz water
- Cherry for garnish

Mix the lime juice, water, and sugar syrup. Combine the mixture with grenadine syrup and rum. Add the Angostura bitters and stir well. Sprinkle each cup with grated nutmeg and garnish with a cherry.

Rum punches are great for big parties, especially around the holidays, because they can be assembled in advance and serve a lot of people.

Some rum punch bowls are cooled with large blocks of ice. This is a better idea than putting small ice cubes in the punch because the large block takes a lot longer to dissolve. It keeps everything chilled without diluting the punch.

Locations by Lecture

Lecture 1: Vodka and Gin—The Cocktail Spirits
Jennifer Simonetti-Bryan, The Gibson, 2009 14th St. NW, Washington DC, 20009

Erik Holzherr, Wisdom, 1432 Pennsylvania Ave. SE, Washington DC, 20003

Lecture 2: Whiskey—The Complex Spirit
Jennifer Simonetti-Bryan, The Gibson, 2009 14th St. NW, Washington DC, 20009

Owen Thomson, America Eats Tavern, 405 8th St. NW, Washington DC 20004

Lecture 3: Rum—The Versatile Spirit
Jennifer Simonetti-Bryan, Blackbyrd, 2005 14th St. NW, Washington DC, 20009

Duane Sylvestre, Bourbon Steak, 2800 Pennsylvania Ave. NW, Washington DC 20007

Lecture 4: Tequila and Mezcal—The Ancient Spirits
Jennifer Simonetti-Bryan, Blackbyrd, 2005 14th St. NW, Washington DC, 20009

Gina Chersevani, 777 I St. NW, Washington, DC 20001

Lecture 5: Brandy—The Luxury Spirit
Jennifer Simonetti-Bryan, The Gibson, 2009 14th St. NW, Washington DC, 20009

John Hogan, Church and State, 1236 H St. NE, Washington DC 20002; Hogan's home restaurant is Level: A Small Plates Lounge, 69 West St., Annapolis, MD 21401

Lecture 6: Liqueurs and Cordials—The Flavored Spirits
Jennifer Simonetti-Bryan, The Gibson, 2009 14th St. NW, Washington DC, 20009

Josh Berner, Ripple, 3417 Connecticut Ave. NW, Washington DC 20008

BONUS DISC

Bonus Lecture 1: The Mixology Toolkit and Classic Recipes

Jennifer Simonetti-Bryan with Duane Sylvestre, The Gibson, 2009 14th St. NW, Washington DC, 20009

Bonus Lecture 2: The Home Bar and Seasonal Recipes
Jennifer Simonetti-Bryan, The Gibson, 2009 14th St. NW, Washington DC, 20009

Mixologist Biographies

Joshua Berner: recently nominated for "best bartender" by expressnightout.com for the *Washington Post Express*, Berner is a bar manager at Ripple, 3417 Connecticut Ave. NW in DC. He is responsible for the cocktail list and friendly vibe at the restaurant's modish bar. Berner also created an all-American cocktail list at the popular H St. haunt, Church & State, where he scoured the country for the finest American spirits to complement his arsenal of housemade vermouths and bitters.

A veteran of DC's bartending scene, Berner has worked at some of the city's best bars and restaurants including PX, the speak-easy style lounge in Alexandria, Virginia, helmed by renowned bartender Todd Thrasher.

Berner's skill lies in his ability to create a cocktail menu uniquely suited to match each restaurant. At Ripple, his menu mirrors the restaurant's commitment to artisanal ingredients and guests will frequently find their libations spiked with ingredients such as cucumber soda, espelette-infused tequila, and spice-roasted lime juice.

Gina Chersevani: Gina Chersevani's innovative creations have caught the attention of *The Wall Street Journal*, *The New York Times*, and *The Washington Post*. She has received rave reviews from *Wine Enthusiast*, *DC Magazine*, and *Washingtonian*. She has won numerous awards and distinctions, including the Restaurant Association of Metropolitan Washington's (RAMW) 2010 RAMMY Award for Best Beverage Program and StarChefs.com Rising Star Award for 2010.

In 2009, Chersevani began a cocktail-culinary collaboration with Chef Peter Smith at PS7's, a fine dining restaurant in DC's Chinatown. While she has been heading the beverage program at PS7's, the restaurant has been listed as one of the 2011 "Top 100 American Cocktail Bars" in *Food & Wine Cocktails*.

Chersevani is known for her award-winning, exceptional cocktails, inspired by her daring and adventuresome use of unconventional ingredients and flavorings, such as honey, peppery nasturtiums, figs, cinnamon, ginger, and blue cheese.

Previously, Chersevani designed the beverage program at 15 Ria, developed an imaginative cocktail menu for Poste Moderne Brasserie at the Hotel Monaco, and worked as master mixologist for Rasika.

John Hogan: John Hogan has been recognized both locally and nationally for his craft in the beverage industry. He has been recognized for his outstanding mixology in multiple venues, including *Washingtonian Magazine*, *Baltimore Sun*, *Washington Post*, *Style Magazine*, the Travel Channel, Vegas Weekly, and Plum TV. He has directly contributed to *Southern Living*, *Food & Wine*, *Imbibe*, and numerous other industry publications.

John has won the 10-Cane Rum Cocktail Contest, Tanquerey's Ten Most Wanted Bartenders, Tru Vodka Bar Made Bitters Challenge, and the Leblon National Cocktail Competition. Bartender turned consultant, John is the senior partner of BarMagic of Las Vegas, an award-winning global nightlife and beverage development company. He is in high regard as a consultant on the craft of mixology.

As owner, John successfully created Level Small Plates Lounge, an award-winning restaurant and cocktail bar at 69 West Street in Annapolis. The restaurant has been voted the best county restaurants by *Baltimore Sun* and one of the top 100 very best restaurants by *Washingtonian Magazine*.

Erik Holzherr: Erik Holzherr is noted for opening innovative restaurants and bars. His mixology credits include winning the Corcoran's Artini contest, and he was filmed at his bar, Wisdom on 1432 Pennsylvania Ave., SE, in Washington DC, which is renowned for unconventional cocktails.

In August 2010, Holzherr opened Fruit Bat Bar on H Street, NE Washington DC. Fruit Bat offers South American/Central American fare paired with fresh-squeezed and seasonal juice cocktails.

Church & State is the all-American speakeasy Holzherr opened above Fruit Bat in January 2010. Church & State pays homage to American cocktail heritage and also to small batch American distilleries that are popping up all over the nation. Church & State makes many of their own infusions and cocktail ingredients such as vermouth, ginger beer, grenadine & orgeat syrup.

Erik has created and maintains the "Gintender" blog which provides an extensive database on cocktails with a gin focus. He continues to manage and bartend at Wisdom, cater events throughout DC, and act as a cocktail consultant for restaurants and bars.

Duane Sylvestre: Duane Sylvestre brings more than 13 years of bartending experience to his position as Head Bartender at Bourbon Steak in Washington DC. At the Michael Mina fine dining restaurant, Sylvestre crafts innovative specialty and classic cocktails using house-made liqueurs and infusions.

Sylvestre's creative concoctions have been recognized by notable food and beverage publications including *DC Modern Luxury, The Washington Post Express*, *Wine Enthusiast*, and *Washington Life magazine.* In 2010, the bar at Bourbon Steak was named one of 75 hottest in the city by *Washingtonian Magazine* and nominated 2 years in a row for Hottest Bar Scene of the Year by the Restaurant Association of Metropolitan Washington.

Sylvestre has also won cocktail competitions such as the inaugural Quill cocktail competition at The Jefferson in Washington DC; the Ketel One /Don Julio Clash of the Cocktail; and Tanqueray Best TNT contests. He was also a national finalist at Bombay Sapphire's Most Inspired Bartender competition in 2010 and won the DC round of the competition in 2011.

Owen Thomson: Owen Thomson is Lead Bartender of José Andrés' ThinkFoodGroup. He works closely with José Andrés, beverage managers, and bartenders throughout ThinkFoodGroup's 11 restaurants across the country to develop new cocktails as well as to teach technique.

Prior to his promotion, Thomson was part of the bar team at Café Atlántico, José Andrés' pioneering Nuevo Latino restaurant in the Penn Quarter

neighborhood of Washington, DC that was named one of the country's "Bars on the Cutting Edge" by the *New York Times* in 2008.

Previously, Thomson ran the bar program at Bourbon in Washington DC, which was written up in the *Wall Street Journal*, *New York Times*, *Washington Post*, *Esquire*, *Wine Enthusiast*, and *DC Modern Luxury*.

In addition, Thomson is president of the DC Craft Bartenders Guild, an organization dedicated to fostering a craft cocktail culture in Washington DC, which he helped found in 2008. Recognizing Thomson's cocktail making skills and his passion for innovation, St. Germain asked him to become a local brand ambassador in 2010.

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