

DEMAND ANALYSIS TO ACCOMPANY NOTICE OF INTENT FOR NEW OR EXTENDED DEGREES

The information from this form will be used:

- In summary form in the Notice of Intent
- In the Financial Analysis spreadsheet
- In the New Degree Proposal form
- In the submission for accreditation to the Northwest Commission on Colleges and Universities after approval by the Board of Regents

Using the information you developed in the Demand Analysis Workbook, please complete the form below and submit with your Notice of Intent. You do not need to submit the Workbook itself.

Proposed Degree	MSc Viticulture and Enology	Location:	WSU Tri-Cities
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1. Employer Demand

If you are extending a degree, or have a related existing degree, briefly summarize the employment outcomes for your graduates.

What is the state and regional employment demand for this degree?

Is long-term employer demand expected to grow, remain stable, or decline?

What is your evidence?

Answer here:
<p>The proposed MSc in Viticulture and Enology leverages the strengths of WSU's established undergraduate program and the cutting-edge research led by V&E faculty, both of which have consistently produced graduates with strong employment outcomes. Alumni of the undergraduate Viticulture and Enology program have achieved significant success in the industry, with an average starting salary exceeding \$75,000 for positions at wineries producing 50,000 cases or fewer. Moreover, earning a BS in Viticulture and Enology from WSU results in an average 6.1% salary increase within the industry, underscoring the degree's recognized value among employers. Graduate students under advisement by V&E faculty have gone on to careers in production, management, research (both academic and industry), and education.</p> <p>State and Regional Employment Demand: Washington State, the second-largest wine-producing state in the U.S., with over 1,050 wineries and more than 400 grape growers, has a strong and growing demand for highly skilled professionals in viticulture and enology. The regional industry, fueled by both domestic and international markets, requires a sustained pipeline of talent with</p>

advanced expertise to meet its expanding needs and to maintain its competitive edge.

Long-Term Employer Demand: The Washington wine industry, contributing over \$9.5 billion annually to the state’s economy, is becoming increasingly complex, requiring greater integration across related disciplines. As the industry evolves, the demand for professionals with advanced expertise in viticulture, enology, and associated scientific fields—including microbiology, general agriculture, plant pathology, and food chemistry—is steadily expanding. This trend is reinforced by industry forecasts and continued investments in Washington’s wine production infrastructure and capabilities.

In recent years, the reduction in Washington’s grape tonnage reflects a strategic shift toward a balanced supply-demand model, prioritizing quality over quantity. An MSc in Viticulture and Enology from WSU would equip students with the advanced knowledge and technical skills needed to implement cutting-edge vineyard management strategies, optimize resource utilization, and produce premium-quality wines that align with consumer expectations. Furthermore, the boutique nature of many Washington wineries highlights the need for professionals adept at customized production techniques and niche market production strategies—key areas of focus in the MSc curriculum.

The proposed WSU MSc in Viticulture and Enology would prepare graduates not only to meet current job demands but also to lead the industry in innovation. Graduates would be poised to address critical challenges such as climate adaptation, sustainability, and advancements in enological techniques. As the industry navigates oversupply issues, innovation in production and operations will become paramount. MSc graduates will drive progress in precision viticulture, microbial biochemistry, and value-added product development, ensuring Washington wines remain competitive in the global market.

Evidence: WSU's graduate students who have completed Viticulture and Enology-focused projects have successfully secured prestigious positions in the industry. For example, graduates have gone on to become viticulturists, director of vineyard operations and vineyard/winery owners.

Overall, the employment outlook for graduates of the MSc in Viticulture and Enology is highly positive, with strong and growing demand in both state and regional markets. This program is expected to produce graduates who are well-

equipped to meet the needs of the expanding and increasingly sophisticated wine industry in Washington and beyond.

2. Competitors

Who are your competitors? What is their competitive advantage? Are competitor-institutions planning to introduce similar programs/expand existing ones? Why is your department/school able to provide the proposed new degree better than other WSU departments/schools or other universities?

Answer here:

Our primary competitors in offering a Master of Science (MSc) in Viticulture and Enology are institutions with established, highly regarded programs in this field, including the University of California at Davis, California State University at Fresno, California Polytechnic State University at San Luis Obispo, and Cornell University. Except for Cornell, each of these institutions offers MSc programs specifically in Viticulture and Enology. Cornell University, while not having a standalone department dedicated solely to Viticulture and Enology, provides a highly respected graduate program in this area through its School of Integrative Plant Science (SIPS) within the College of Agriculture and Life Sciences (CALS). This program allows students to specialize in viticulture and enology through various sections, including Plant Pathology and Plant-Microbe Biology, Horticulture, and the Food Science and Technology Department. These universities all have long-standing reputations for excellence in viticulture and enology education and research.

Competitive Advantage: While UC Davis has a competitive advantage, being renowned worldwide for its viticulture and enology program with an extensive network of industry connections that benefit its students, the other institutions—California State University at Fresno, California Polytechnic State University at San Luis Obispo, and Cornell University—do not hold a distinct competitive advantage over WSU. These institutions, while respected, do not surpass WSU in key areas such as research funding, faculty expertise, or the range of specialized courses tailored to the wine industry. WSU's strategic location in Washington's thriving wine region, combined with our state-of-the-art facilities and strong industry ties, ensures that we are on par with, if not better positioned than, these competitors to offer a premier education in viticulture and enology. Furthermore, WSU has better industry ties (established collaborations and communication) than UC Davis. Additionally, WSU has a more diverse, international faculty body than UC Davis.

Competitor Plans: None of the aforementioned institutions have public plans to expand their MSc offerings. For example, at CSU Cal Poly, students interested in viticulture and enology research must go through the crop science specialty, as their faculty lacks formal research appointments, and the institution is primarily undergraduate-focused.

Although CSU Fresno offers an MSc in Viticulture and Enology, the department has faced challenges with inconsistent leadership and difficulties in retaining and attracting high-caliber faculty to conduct research.

WSU's strategic location in Washington's thriving wine region, combined with our state-of-the-art facilities and strong industry ties, ensures that we are on par with, if not better positioned than, these competitors to offer a premier education in viticulture and enology.

Why WSU is Better Positioned: WSU's Department of Viticulture and Enology is uniquely positioned to provide the proposed MSc degree due to several factors. First, WSU is in the heart of Washington State's wine country, the second-largest wine-producing region in the U.S., which provides students with direct access to a dynamic and rapidly growing industry. This proximity allows for unparalleled opportunities for hands-on learning, internships, and industry partnerships that are directly relevant to the students' education and future careers.

Second, WSU's Ste. Michelle Wine Estates Wine Science Center is a state-of-the-art facility that rivals those of our competitors. It offers cutting-edge research and teaching laboratories, a research winery, and access to industry-relevant technology, providing students with the practical skills and experience needed to excel in the field.

Finally, WSU's program is supported by a close-knit network of faculty with deep connections to the local, regional and global wine industry, ensuring that the curriculum is responsive to industry needs and that students are well-prepared to meet the demands of the market. Our ability to integrate viticulture and enology education with real-world applications in Washington State's thriving wine industry gives WSU a distinct advantage over other institutions. This local focus, combined with the global impact of Washington wines, positions WSU to deliver a MSc program that is both highly relevant and competitive in the field of viticulture and enology.

3. Student Demand

Describe the target market in light of regional population trends, especially in the target age group.

What is the current number of students in existing programs in the proposed market area in this field? What is the potential number of students forecasted?

What are the key characteristics of the market segment you seek? How will your degree serve their needs?

Answer here:

Target Market and Regional Population Trends: The target market for the MSc in Viticulture and Enology at WSU includes recent graduates and early-career professionals aged 22-35 who are seeking advanced education and specialized training in viticulture and enology. The Pacific Northwest, particularly Washington State, continues to experience steady population growth, with an increasing number of young professionals drawn to the region’s dynamic agricultural and wine industries. This demographic is expected to expand as the region continues to develop economically, attracting individuals interested in pursuing careers in viticulture and enology.

Current and Potential Student Numbers: Recent undergraduate enrollment in the Viticulture and Enology program at WSU has been down, primarily due to the global pandemic and the botched rollout of the Free Application for Federal Student Aid (FAFSA) this year, which negatively impacted student numbers. This decline was particularly pronounced among students from historically underserved populations, such as veterans, first-generation students, and student parents, who often require more financial support. However, new student success programs aimed at addressing these challenges have started to make a substantial difference. Applications for Fall 2024 were up by 45.5%, and we anticipate this positive trend to continue, with incoming undergraduate student numbers expected to increase, particularly as FAFSA complications are resolved.

Despite challenges in recruiting students into the graduate groups of Horticulture (HORT) and Food Science (FS) to focus on Viticulture and Enology studies and research, WSU’s graduate student numbers have held steady at 18-20 in recent years. This consistency demonstrates the ongoing

interest and demand for advanced study in this field. Given the industry’s need for highly trained professionals, we project that the MSc program could initially attract 2 - 4 students in its first year, with potential growth to 12 - 24 students annually within five years assuming faculty hires promised under the NOI for the formation of the Department are realized, reflecting the industry’s need for innovative solutions and advanced expertise.

Key Market Segment Characteristics and Needs: The key characteristics of the market segment we seek include individuals who are passionate about viticulture and enology, eager to engage in hands-on, research-driven education, and interested in pursuing leadership roles within the wine industry. This segment is likely to include recent graduates from related undergraduate programs, professionals currently working in the wine or agricultural sectors, and individuals seeking to transition into the industry from related fields such as food science, horticulture, or chemistry.

How the Degree Will Serve Their Needs: The MSc in Viticulture and Enology at WSU is designed to meet the specific needs of this market segment by offering a curriculum that combines advanced scientific knowledge with practical, industry-relevant experience. The program will provide students with access to state-of-the-art facilities, including the Ste. Michelle Wine Estates Wine Science Center, and opportunities to engage directly with the thriving Washington wine industry.

Despite recent challenges in undergraduate enrollment, the industry’s need for highly trained professionals remains critical, especially in light of significant changes brought about by factors such as climate change. The MSc program will equip graduates with the expertise needed to develop innovative solutions to these complex challenges, positioning them for leadership roles in the industry or for further academic pursuits. This degree program is not only vital for meeting the educational needs of the target market but also crucial for addressing the evolving demands of the regional and global wine industries.

Expected FTE					
Year 1	2 – 4	Year 2	8 – 12	Year 3	12 – 16

How did you arrive at these numbers? How do they compare with your current enrollments in an existing degree or option, or related degree?

Answer here:

The projected enrollment numbers for the MSc in Viticulture and Enology were determined by analyzing several key factors. First, we considered the current steady enrollment of 10 – 14 graduate students in Viticulture and Enology-focused studies, despite the challenges of recruiting students through the Food Science and Horticulture graduate groups. These existing numbers provide a solid foundation for estimating future enrollment in the new MSc program.

Additionally, the projected numbers reflect the shift of students who would have previously enrolled through the Food Science graduate program but will now enter directly into the MSc in Viticulture and Enology. Following the formation of the V&E Department, no V&E faculty retained affiliation with the Food Science Graduate Group, as faculty transitioned fully under the new department. We also considered the planned growth within the department, including increased funding for projects as new faculty are onboarded and the expansion of available graduate student positions. This anticipated growth is in line with the strategic goals set by the faculty and the department.

Furthermore, we considered the impact of new faculty hires promised in the original Notice of Intent (NOI) for the transition of Viticulture and Enology from a program to a department. These new hires are expected to expand the number of faculty bringing in graduate students, further boosting enrollment numbers. Based on these considerations, we project initial enrollment of 2 – 4 students in the first year, with growth up to 12 - 16 students annually (total projected program size) within five years.

These projected numbers compare favorably with our current enrollments in related graduate programs. The existing graduate student population in Viticulture and Enology-focused studies has remained stable at 10 - 14 students, even when students were enrolled through other graduate programs like Food Science and Horticulture. The shift to a dedicated MSc in Viticulture and Enology is expected to streamline the recruitment process and better reflect the actual interest and demand in this field.

With the added benefit of new faculty and increased resources, the MSc program is poised to grow beyond the current enrollment levels, meeting the rising demand for specialized education in viticulture and enology. The projected growth aligns with the strategic expansion plans outlined during the

transition from program to department, ensuring that the program can effectively support a larger number of graduate students in the coming years.

4. Recruitment Plan

How and where are students going to find out about this program? Who will represent this department in its promotion activities? What specific venues can you use to promote an awareness of this new program? What means will be used to access and educate businesses, industry, agencies, and/or institutions about this offering?

Answer here:

How and Where Students Will Learn About the Program: Students will learn about the MSc in Viticulture and Enology through a variety of targeted channels. The program will be promoted through WSU's existing communication platforms, including the university website, social media, and email campaigns aimed at prospective students in related undergraduate fields. Additionally, the program will be featured in industry-specific publications and newsletters, which reach a broad audience of individuals already engaged in the viticulture and enology sectors. Finally, we plan to share the opportunities for continued education with our undergraduate students enrolled

Representation in Promotion Activities: All faculty members in the Department of Viticulture and Enology will actively represent the graduate group at various conferences, speaking engagements, and interactions with the industry. These events provide an excellent opportunity to showcase the new program to potential students and industry professionals alike. The program manager, Kaury Balcom, and Founding Department Chair, Jean Dodson Peterson, will continue to lead recruitment efforts through marketing and communications, recruitment events, and general outreach, ensuring that the program gains visibility among the target audience.

Specific Venues for Promotion: Promotion of the MSc program will take place at key industry conferences such as the Unified Wine & Grape Symposium, the American Society for Enology and Viticulture (ASEV) Annual Conference, and regional viticulture and enology meetings. Additionally, faculty will promote the program during guest lectures and workshops at universities and industry events. WSU will also leverage its connections with the Washington wine

industry to disseminate information about the program through industry partners, trade associations, and professional networks.

Means to Access and Educate Businesses, Industry, Agencies, and

Institutions: To reach businesses, industry, agencies, and institutions, the department will use a combination of direct outreach, partnerships, and collaborations. Faculty and the program leadership will conduct informational sessions and webinars aimed at industry stakeholders to educate them about the benefits of hiring graduates from the MSc program. The department will also work closely with industry advisory boards to ensure that the program meets the evolving needs of the industry, which will further support recruitment efforts. Regular updates and promotional materials will be sent to industry contacts, highlighting the program's strengths and the expertise of its graduates. This comprehensive recruitment plan is designed to ensure that the MSc in Viticulture and Enology program at WSU reaches a wide and relevant audience, attracting high-quality applicants and establishing strong connections with the industry.