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The Undergraduate Thesis: Structured for Success

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Abstract

From scientific experiments to the scholarly analysis of literature, the undergraduate thesis is an ideal way to offer the self-directed learning that the honors experience is known for yet it can be difficult for students to complete such an endeavor. The Honors College at Oregon State University offers one way to restructure and support the undergraduate honors thesis using backward design, long-range planning, predictive analytics to track progress, automated reminders for students and thesis mentors, along with supports to connect students to faculty and research projects. In addition, the structure stresses the importance of messaging to prospective students, current students and faculty members communicating the value gained by completing the thesis. The Honors College Thesis Success in Stages (TheSIS) guide removes many of the barriers associated with completion of the undergraduate thesis. These tools support every honors student through the entire thesis process.

The Undergraduate Thesis: Structured for Success

The undergraduate thesis is both a defining feature and an ongoing challenge for many honors programs and colleges. The complex nature of the thesis project produces important benefits—research indicates that it is a valuable capstone experience that allows students to develop key critical thinking and communication skills, (Bauer, & Bennett, 2003; Mauch, & Park, 2003) —but it can be difficult for those same reasons. When students do not complete the thesis project, they cannot reap all of the rewards. The impact on completion rates can also be problematic for honors colleges or programs that assess their own success in part by that metric. A research university context intensifies the challenges as well as the opportunities that the thesis presents; students may have a broader array of research opportunities, for instance, but more difficulty establishing connections with faculty mentors.

At Oregon State University (OSU), the Honors College (HC) is a degree-granting college of approximately 1000 high-achieving students comprising about 4% of OSU's undergraduate population on campus pursuing any undergraduate major OSU offers. Honors students receive the benefits of small class sizes, priority registration, specialized academic advising, and undergraduate research and mentorship, as well as being members of a close-knit community within a large public land grant university. They fulfill honors requirements as well as academic major requirements, taking a more diverse curriculum and completing an undergraduate thesis as a part of their jointly-awarded Honors Baccalaureate degree. The thesis must be a significant scholarly project; most students choose a project related to their major, but they may also work in another discipline if they have the interest and necessary expertise. Each thesis committee includes the primary faculty mentor as well as two other faculty members and/or experts, all of whom participate in the final defense.

Historically, HC students have found the thesis requirement challenging to complete. Longitudinal data shows students withdrawing from the HC in the third year of study, the point at which they are expected to select a mentor and solidify a thesis topic, at a higher rate than students in their first or second year of study. Additionally, many students describe their reasons for leaving the college as not seeing the value in completing the thesis, not finding the right mentor or topic “fit,” and/or finding it difficult to manage the intense self-directed learning on top of advanced coursework in their major. Reviewing these long-term trends highlighted the need to structure the thesis experience to support students in moving through the process and completing the Honors degree. To work toward that goal, we used a “backward design” approach. We conducted in-depth interviews with a variety of audiences in order to identify the key steps and characteristics of an effective thesis process and then designed a comprehensive set of resources and personalized tools that allow students to create and follow their own map to thesis success.

Backward Curriculum Design and the Thesis

The concept of backward design is prevalent within curriculum design literature, and suggests three broad steps: (1) identify the desired outcome, (2) determine acceptable evidence, and (3) plan learning activities and experiences (Macdonald, 1971; Wiggins, & McTighe, 1998; Childre, & Pope, 2009; Miller, 2011). The backward design framework requires not only articulating clear learning outcomes but also implementing appropriate assessment to provide evidence of outcome achievement. It offers a foundation for continuous process improvement (Baughman, Brumm, & Michelson, 2014). Backward design fits the thesis process well because the outcome has already been identified and its value established. Many institutions have experimented with different forms of support for achieving that outcome (Gutgold, & Rogers,

2015; Burke, Heinonen, & Goepferd, 2015; Gellens, 2015). Some focus on finding a faculty member to coach a student throughout the thesis process, or addressing the challenge of writing, revising and incorporating feedback into a thesis, while other institutions support the thesis predominantly through the curriculum. As we have learned from those models and innovations, we hope that others will be able to take something away from our approach to the process and/or from the specific tactics we have adopted to support student success in the thesis.

At the HC, the thesis corresponds to one of the two distinct learning outcomes underpinning our degree requirements and curricular and co-curricular programming. The outcomes focus on two areas: engaged inquiry and scholarly inquiry. The latter states that honors graduates will have “developed the ability to engage in pursuits that create new knowledge and contribute to one or more scholarly areas of study” and will demonstrate a specific set of skills related to the thesis:

- Ability to choose a relevant and meaningful topic to study within a scholarly area
- Ability to employ a sound approach in creating new knowledge within a scholarly area of study
- Ability to synthesize and/or analyze results from a significant, self-directed, and open-ended project
- Ability to find multiple sources of relevant information
- Ability to evaluate the quality of information resources
- Ability to write an honors thesis: a significant, self-directed, and open-ended project
- Ability to present an honors thesis
- Ability to defend an honors thesis (Honors College, n.d.)

The thesis serves as the capstone for the HC experience, emphasizing the importance of learning outside the traditional classroom, communicating across disciplines, and gaining real-world research experience.

Having established the learning outcome (scholarly inquiry) and determined the evidence that students had achieved that outcome (the undergraduate honors thesis), we adapted backward design to develop the structure that would support students in making progress toward that goal. Grant Wiggins and Jay McTighe (1998) explain the concept by way of two analogies that are especially pertinent:

Backward design may be thought of...as purposeful task analysis: Given a worthy task to be accomplished, how do we best get everyone equipped? Or we might think of it as building a wise itinerary, using a map: Given a destination, what's the most effective and efficient use? (19)

We understood the thesis to be a “worthy” and highly complex undertaking, and wanted to “equip” students to complete that task by providing a “map” that would enable them to plan and follow “a wise itinerary.”

We began by taking stock of the current system and resources. Because the thesis had been a long-standing challenge, the level and type of support had evolved over time. For about fifteen years, the HC had been offering a one-credit “Introduction to the Thesis” course in various forms; this course has moved from being discipline-specific to more general, and from optional to required to optional again. Approximately five years ago, the HC delineated four key stages in the thesis process--roughly corresponding to one per year in a traditional undergraduate trajectory--and had continued to adjust their content and requirements. Resources were shared through a Blackboard organization to which all HC students belonged. While this system was

useful in breaking down the thesis process and centralizing some resources, it had significant limitations; most notably, it did not allow the HC to track students' progress or offer targeted support if they began to struggle.

To prepare for a comprehensive overhaul of the thesis process that would facilitate such individualized tracking and support, we sought a clearer picture of the thesis experience from the student and faculty perspectives and a stronger sense of the successful elements of other thesis programs at OSU. The HC Director of Student Success and Engagement facilitated individual and small group interviews with students, mentors, and advisors involved with the honors thesis or other thesis programs on campus, asking all interviewees the same questions about the process, responsibilities, and support structure:

What does your ideal thesis process look like?

What do you view as key activities to the process?

What events trigger the process to start?

What are the normal end points/states and what are the exceptions for each point/state?

What gaps exist between what you expect and what you are currently receiving?

What responsibilities do students/mentors/the HC organization as a whole have?

What problems or issues impact your performance?

What other thoughts would you like to share?

She then analyzed the responses carefully to seek the dominant improvement areas or themes that emerged. Within each theme, she distilled recommendations and action items, and formed teams of HC faculty and staff to address each of those over the course of a summer. The recommendations fell into two general groups: (1) creating a comprehensive overview of the thesis process and communicating with students and faculty mentors about key milestones and

resources, and (2) enhancing existing support and adding new sources of support at especially challenging steps in that process. The following sections explore in detail the two sets of recommendations and corresponding actions taken.

Structured Changes I: Maps and Messages

The first set of recommendations highlighted the need to make the thesis process transparent and accessible, with relevant materials and clear communications correlated with each stage. At the same time, the structure had to retain enough flexibility to allow students to personalize their approach to the thesis in accordance with their specific project, discipline, mentor's guidance, and individual circumstances. As we will discuss in more detail below, the HC built out the four stages of the thesis system to be more robust and distinct and asked each student to create a map pinpointing when they expected to hit each milestone. With Salesforce, a Customer Relationship Management system used within the college, we were able to track students' progress individually and also send timely updates to their faculty mentors.

One broad recommendation that came out of the conversations was to *create a network of timely, topical resources to utilize on the HC website, ensuring accurate information is inclusive, condensed, and integral to the thesis process, conveying clear requirements*. To those ends, the HC dissolved the Blackboard organization previously in use and developed the new Thesis Success in Stages (TheSIS) guide on the main HC website at honors.oregonstate.edu/thesis. The guide goes beyond dividing the thesis process into a series of manageable stages to lay out the essential tasks within each stage and pair those tasks with resources to support the students along their paths. **Start**, stage 1, involves learning about the thesis requirement and mapping out a personalized timeline; **Learn**, stage 2, requires students to explore research at OSU by examining previous thesis work and speaking with OSU faculty; **Undertake**, stage 3, prompts

students to select a thesis mentor and work with that mentor to select a topic, develop a research plan, and complete a formal thesis proposal; and **Graduate**, stage 4, supports students in the process of actually writing the thesis, including drafting and revising chapters, designing a poster, planning a thesis defense and submitting the approved, bound thesis.¹ Since each thesis journey is unique, not all students utilize the same available resources; however, the TheSIS guide keeps students on track towards completion in a purposeful, organized and timely way (Honors College, n.d.). All stages are shown on the Thesis Map in Figure 1.

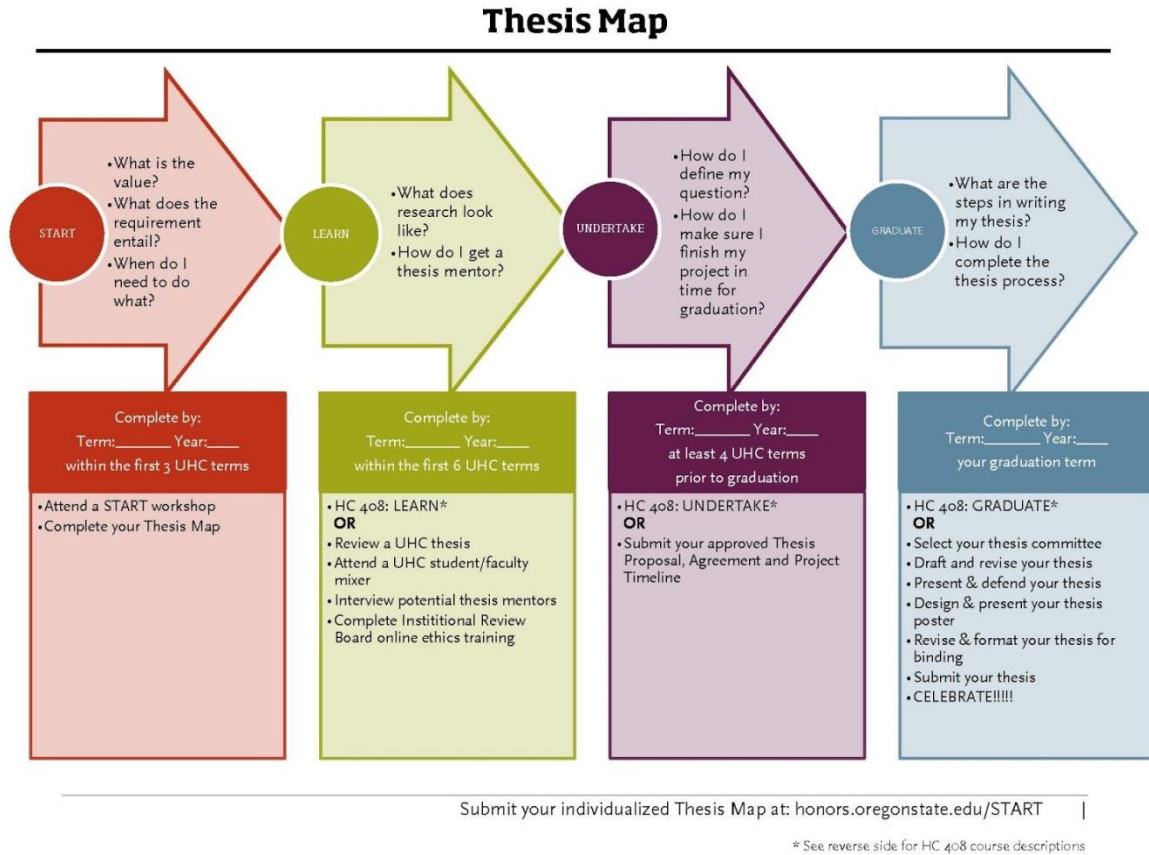
The four stages include specific tasks or courses to assist students in gaining the skills needed to move forward. Each stage focuses on a few guiding questions, and then walks students through steps that will help them discover the answers for themselves. “Learn,” for example, prompts students to consider “What am I truly curious about?” “What qualities should I seek in a thesis mentor?” “What is the best project for me, considering my career and life goals?” and “What projects have other students done successfully?” Students are asked to review and reflect on a completed thesis, attend a faculty-student matching reception (which we will return to in the next section), interview a potential mentor and share their takeaways from that conversation, and complete online training in research ethics. Although the HC recommends due dates for each of the four TheSIS stages, enforced completion dates are based on the individual plan the student sets.

That plan takes the form of a Thesis Map, the tool that grew out of the recommendation *to create a system by which thesis milestones are tracked in order to ensure timely completion*

¹ The names of each stage correspond to the primary tasks included, but were also chosen to fit the acronym SLUG. The slug has become a beloved, if unofficial, mascot of the HC because SLUG was also the tongue-in-cheek acronym for the student computer lab in the basement of our former building: Students Learning Under Ground.

and pertinent communications, as well as accountability. The Thesis Map, shown in Figure 1, asks students to develop a general plan for completing the various thesis stages, working back from their ideal graduation date. They select the term and year by which they expect to complete each stage and specify whether they anticipate completing the steps independently or by enrolling in one of the thesis workshop courses (more on those below). The Thesis Map provides an undergirding structure that is still highly customizable; all planning decisions are left up to the student, with the only fixed deadline being the final thesis submission date. In consultation with a HC academic advisor, students submit their expected completion dates for all four stages of the thesis process, allowing the HC to closely track progress. As the project evolves, the student can adjust the timeline on the map as needed.

Figure 1.



While this exercise in long-range planning and goal-setting is valuable for its own sake, the Thesis Map alone does not create the ongoing accountability that our interviews had suggested would be most helpful for students. We did not want it to be a form that was filled out, filed, and forgotten, but instead a blueprint that would be consulted regularly and would evolve as the thesis project itself did. In order to track student progress through the thesis stages and specific tasks critical for success, we needed a high level of information integration and so the HC worked with a developer to create a Salesforce application. This Customer Relationship

Management System made it possible to integrate thesis stages and tasks with a student's data record. Students enter information (including the thesis map itself as well as the responses to specific tasks, like their reflections after reading a complete thesis) directly onto the TheSIS guide website via survey forms, and Salesforce then links the data to the student record. As students progress through the stages and tasks, their progress is tracked within Salesforce. This information can be reported in the aggregate (to analyze the progress of an entire cohort) or individually (to track each student's progress).

With the development of information integration within Salesforce also came the ability *to create a set of communications to alert students and thesis mentors of milestones*, another recommendation set forth in our initial findings. Emails were created that were automatically sent to students introducing the overall process and when a stage or specific task was completed; these messages congratulate the students, outline the remaining stages and/or tasks still to be completed, and point to resources and materials that may be helpful for those next steps. For example, one excerpt from an email within stage 1, Start, reads as follows:

As you know, the Thesis Success in Stages (TheSIS) guide is designed to support students as they work toward completion of their HC thesis. The first step in this process, START, provides an introduction to the thesis requirements and an outline of thesis resources for students. Students are expected to complete START within their first year in the HC. **Our records indicate that you have completed the very first task of START: having attended a START workshop. Now all that remains to complete the START stage is to submit an individualized Thesis Map.**

In addition, students are sent messages if they miss a deadline they set on their Thesis Map, reminding them of their long-range plan and encouraging them to take the next step (and/or

adjust their Thesis Map based on how their project is taking shape). An email reminder to students to complete stage 2, Undertake, includes:

We know from experience that students who do not submit a thesis proposal during the early stages will face more issues in successfully completing their thesis in parallel with other program and graduation requirements. Our course, HC 408 Thesis: Undertake, can be valuable in your efforts to identify a thesis mentor, select a thesis topic, and write your thesis proposal. These are critical steps in the thesis process. The earlier you can start, the more likely that you will be able to successfully write and defend your thesis without extending your time to graduation. There are still spots available in HC 408 Thesis:

Undertake for spring term but if the course does not fit into your schedule, plan to make progress on this stage by utilizing the Thesis Proposal, Agreement and Timeline template online within UNDERTAKE.

These communications tie back to the online TheSIS Guide, creating a coherent system of information and support for students. All reminders ask students to take a specific action and at minimum reach out to their HC academic advisor for consultation. Ultimately, if a student does not take action after several reminders, and being placed on warning, the student will be disenrolled from the college.

We wanted thesis mentors to be plugged into the same system. Any tenured or tenure-track member of the OSU faculty can serve as a thesis mentor, and their levels of connection to the HC and of experience mentoring honors undergraduates vary widely. The HC Associate Dean and the Director for Student Success and Engagement collaborated to develop a series of targeted emails to thesis mentors to be sent at three crucial points in the thesis process: upon submission of the thesis proposal, three months after the proposal submission (when most

students will be making substantial progress), and at the beginning of the term in which the student plans to defend (according to the timeline they set). These emails were similar to the student messages in that they explained what to expect in the next stage and recommended resources and materials for support, but these messages focused on the mentor's role and responsibilities and provided a big-picture view of the honors thesis process that faculty outside the HC might not have. For instance, the third email began,

This is the final message of the series designed to support you and your student through a positive and successful mentoring process. Previous messages covered beginning the project and making progress; this message includes resources and FAQs relevant to preparing for the thesis defense. In this final phase, most mentors and students focus on preparing for a successful defense, creating a thesis poster, and submitting the final thesis.... Thank you again for mentoring your student through this valuable and rewarding process!

The message goes on to underscore the critical deadline for thesis submission; provide links to the relevant sections of the Mentor Guidelines and TheSIS guide online; answer a few common questions about the defense format and policies, thesis poster, and submission process; and provide contact information for any other questions or concerns. The automation of these communications was crucial, enabling us to provide information and feedback at the point at which it is most relevant for each student and mentor.

Structured Changes II: Support in Stages

Whereas the first group of recommendations was aimed at establishing an overarching structure and system for tracking and encouraging progress, the second set offered suggestions for supporting students and mentors effectively during specific steps on the Thesis Map. The

faculty mentor has the primary responsibility for guiding the student's research and determining the appropriate format and style for an undergraduate honors thesis in their discipline, so the HC sought to design tools and resources that would provide support at critical stages *and* be adaptable across disciplines. The stakeholder interviews indicated that new and/or expanded resources would be helpful at three significant milestones for students: connecting with a mentor, creating a proposal and establishing shared expectations, and writing the thesis document. Each of these milestones requires students to tackle a complex task for which their previous coursework and experiences might not have equipped them; we wanted to ensure that students had the skills and support to succeed at these tasks.

The need for additional assistance at an early phase led to the recommendation to *create a process by which students can learn about faculty and their research interests*. Many students reported feeling anxious about independently contacting potential faculty mentors and we wanted to alleviate that anxiety by hosting events dedicated to connecting students and faculty with shared interests. These events also build networking and communication skills that students can draw on during the later stages of the thesis project. Over the previous several years, we had begun hosting student-faculty matching receptions with some academic colleges. This recommendation pushed us to support Honors College students from all majors by expanding these events to every college with undergraduate programs at OSU. The two-hour receptions are co-hosted in partnership with a single college (e.g., College of Engineering) or a collaborative group (e.g., the Division of Earth Systems Science, which includes the Colleges of Agricultural Science; Forestry; and Earth, Ocean, and Atmospheric Sciences). We aim for one reception with each college or division per year, which translates to about two events per quarter. During the first hour, faculty have two to three minutes each to present their research interests, current

projects, and opportunities for students; in the second hour, the group is encouraged to mingle, with students and faculty discussing the research and opportunities presented. These events help students identify faculty who are interested in working with high-achieving undergraduates and have an area of specialization that can develop into a thesis project. Students may also meet potential thesis committee members and learn more about the directions and conventions of research in their chosen field. To ensure that all have access to these benefits, the HC requires each student to attend at least one matching reception during the second stage of the thesis (Learn); as with other tasks, completion is tracked on Salesforce.

Once a student has connected with a mentor and agreed with them on a general topic, the next recommendation comes into play: *create tools that assist students and thesis mentors in communicating expectations and needs*. Interviewees advised that tools should clearly state the responsibilities of the student, the mentor, and the HC. The Associate Dean revised the Thesis Mentor Guidelines, carefully employing language that is inclusive of a variety of scholarly disciplines to create a comprehensive reference that offers more detail on the duties of the thesis mentor in regards to the proposal, thesis committee, thesis defense, thesis poster, and thesis submission. The Director of Student Success and Engagement and a HC academic advisor also redesigned the Thesis Proposal with those aims in mind, adding an Expectations Agreement and Timeline.

Now, in addition to submitting a project proposal that includes an introduction, thesis statement/hypothesis, approach/methodology, and expected results and significance, students and mentors sign a statement that outlines their mutual responsibilities. Some of these are common to all Expectations Agreements—students commit to sharing a final draft with the thesis committee at least ten business days before the defense, for instance—while others are specific

to the project—the mentor identifies the appropriate citation style, for example. The Timeline complements the Thesis Map, providing a more fine-grained schedule for the final stage (Graduate). Both the Expectations Agreement and the Timeline work in concert with the email messages described above, which reinforce student and mentor responsibilities at each stage and remind them of where they have been and where they are headed. Bundling these elements with the proposal resulted in a comprehensive set of tools to assist students and mentors in establishing clear communication and an agreed-upon timeline. The HC sees the thesis proposal as an essential component in moving towards a strong and manageable project; adding the Expectations Agreement and Timeline provided a coherent path to completion.

The final recommendation in this set spoke to the need to *create a fourth option in the suite of TheSIS workshops and courses to support the thesis writing process and assist students in the final stretch to graduation*². As the recommendation indicates, the HC by this point was offering one workshop and two courses intended to guide students through the earlier stages of the process (Start, Learn, and Undertake). The one-hour Start workshop, led by the HC Dean, is offered several times each term; it is non-credit-bearing, and required for all students. HC 408 Thesis: Learn and HC 408 Thesis: Undertake are one-credit courses offered every term that provide guidance and structure for completing the second and third stages of the process. HC 408 Thesis: Learn is designed as an introduction, where students become more familiar with the stages and tasks involved in a thesis and begin to build skills in approaching others and having conversations around common interests. HC 408 Thesis: Undertake is for students seeking additional support selecting a mentor and topic and crafting the thesis proposal. Students may

² For a copy of the current version of the syllabi please contact the Oregon State University Honors College at honors.college@oregonstate.edu.

choose to take either or both of these HC 408 courses, or to complete the necessary steps independently. Many similar undergraduate thesis programs at other institutions require coursework specific to these stages of the thesis; however, when interviewing current HC students, they advocated for a flexible system where students have the freedom to work autonomously but could utilize coursework if desired.

In their interviews, students also expressed the need for writing support in the fourth and final stage of the process (Graduate) and we discovered that other successful thesis programs at OSU offered some form of writing workshop. The Director of Student Success and Engagement and the Associate Dean jointly designed a curriculum focused on drafting and revising the thesis, designing a successful thesis poster, and preparing for the thesis defense. The final version of HC 408 Thesis: Graduate, taught by the HC Associate Dean, incorporates a number of research-based strategies for productive writing and—consistent with the emphasis on self-directed but supported learning throughout the thesis process—encourages students to experiment with developing their own best practices. They establish individual writing goals for each of the three assigned drafts, which permits them to tailor those goals to the nature and status of their thesis rather than forcing a one-size-fits-all approach. For the first draft, they use Write365, an online tool that encourages them to write at least 365 words per day (a pilot project led by OSU Director of Writing Tim Jensen); for the second draft, they receive and give feedback on excerpts in a peer workshop. The class also discusses how the skills they develop through the entire thesis process might be useful and relevant as they apply to and enter graduate programs, professional training, or internship and employment opportunities. HC 408 Thesis: Graduate is now offered each term, completing the suite of thesis course and workshop options and the increased support at all three critical stages, from finding a mentor to finishing the final draft.

Conclusion

The HC has been revising the thesis process for some time, and student completion of stages and tasks suggest promising results from the most recent changes. While the previous system makes it impossible to arrive at a precise number for comparison, we estimate that approximately half of HC students in earlier cohorts were completing the workshop task within the Start stage by the end of their first year; at the end of the first year of implementation for the new system, 91% of first-year students in the HC have engaged in the TheSIS process by completing that task. This encouraging result is in line with our established goals, which call for 30% of first-year students to complete the full Start stage by the end of the first term, 60% by the end of the second term, 90% by the end of the third term (which translates to the end of the first year on the quarter system), and 100% by the end of the fourth term of enrollment.³ Using Salesforce reporting and automated reminders, we are able to keep up to date on student progress and quickly communicate information.

Despite initial success among first-year students, much progress remains to be made. Second-year and third-year students continue to show lower levels of completion, with 54% having participated in the second stage (Learn) and 39% of third-years having submitted a proposal, agreement and timeline, the culminating task in the third stage (Undertake). A lack of engagement may signal that the student is likely to withdraw from the HC, as mentioned above; under the Retention and Satisfactory Progress policy, students who do not make progress along their Thesis Map can also face removal from the HC. Our primary focus, however, is on

³ Goals are very similar for the Learn stage: We would like to see 30% of second-year students complete this by the end of their fourth term, 60% by the end of their fifth term, 90% by the end of the sixth term, and 100% by the end of their 7th term. For the Undertake stage, we hope to see 25% of third-year students complete this by the end of their 7th term, 55% complete by the end of their 8th term, 80% of students complete by the end of the 9th term and 100% complete by the end of their 10th term.

providing the resources and support that will enable every student who commits to completing the thesis to do so, because we believe they accrue numerous and significant benefits in the process.

Structuring a successful thesis process is a challenging undertaking and the precise dimensions of that challenge will vary even among similar institutions. Many of the specific elements described above, such as the Thesis Map, could be adapted on a piecemeal basis by other honors colleges or programs. In addition, the “backward design” model--identifying the learning outcome, interviewing stakeholders, developing a picture of a successful thesis process as a whole, dividing it into manageable steps, and building a structure that balances accountability with support--offers an effective approach to designing a supportive system for the honors thesis that is tailored to a specific institutional context.

By beginning with the end in mind and gaining a clear picture of a successful thesis experience, the HC was able to identify key elements necessary in supporting students to completion—our own version of Wiggins and McTighe’s “map” (1998). The TheSIS Guide, with its four principal stages subdivided into essential tasks, provides the outlines of that structure; students fill it in with goals that fit their particular project and support tools that suit their particular needs. By collecting and integrating their planned milestones into Salesforce, we can track progress and deliver timely feedback and support throughout the thesis process. When progress stalls, we can intervene early and direct students to a robust set of support options.

This structure does not leave progress to chance or to individual motivation or preparation; instead, it provides a transparent and accessible path forward while requiring both long-range planning and step-by-step progress. The Thesis Success in Stages guide offers ongoing relevant and clear communications, allowing for a flexible and dynamic thesis

experience. And with additional support for students to connect with mentors, create a proposal and shared expectations, and write the thesis document, students are more willing to tackle these challenging milestones. This structure supports the high-achieving student through the thesis process in a purposeful, organized, and timely way.

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Appendix A:

HC Learning Goals

The Oregon State University Honors College has established specific program outcomes in support of student achievement of each of the two HC Learning goals.

Scholarly inquiry – As a HC Graduate, you will have developed the ability to engage in pursuits that create new knowledge and contribute to one or more scholarly areas of study.

Engaged inquiry – As a HC Graduate, you will have developed the capacity to fully engage in meaningful dialog, which incorporates cross-disciplinary and multi-disciplinary perspectives.

Scholarly inquiry

- Ability to choose a relevant and meaningful topic to study within a scholarly area
- Ability to employ a sound approach in creating new knowledge within a scholarly area of study
- Ability to synthesize and/or analyze results from a significant, self-directed, and open-ended project
- Ability to find multiple sources of relevant information
- Ability to evaluate the quality of information resources
- Ability to write an honors thesis: a significant, self-directed, and open-ended project
- Ability to present an honors thesis
- Ability to defend an honors thesis

Engaged inquiry

- Ability to fully engage in meaningful conversations outside of your discipline

- Capacity to demonstrate your understanding of diverse perspectives in conversations in the classroom and/or field settings
- Ability to effectively communicate your unique disciplinary perspective to inform the Learning of others

Appendix B:

Thesis Structure: Interview Questions

What does your ideal thesis process look like?

What do you view as key activities to the process?

What events trigger the process to start?

What are the normal end points/states and what are the exceptions for each point/state?

What gap(s) exist between what you expect and what you are currently receiving?

What responsibilities are students / mentors / the HC organization as a whole?

What problems or issues impact your performance?

Other thoughts:

Appendix C:

Thesis Process Improvements: Themes, Recommendations and Action Items

Conversations focused on the HC thesis experience, identified gaps in support and processes that require further attention.

A. Conversation Themes:

- Materials should be: updated to be inclusive of all disciplines, organized with check boxes and timelines, condensed, consistent, and easily accessible. Focus on an individual with no prior knowledge being able to self-navigate.
- Communicating Responsibilities – materials need to be created to support students and their mentors in managing expectations and communications.
 - Create materials that clearly state what the student is responsible for, what the mentor is responsible for and what the HC is responsible for;
- Tracking – General overall agreement to track students’ progress, but a strong voice around the challenges with how we do that in a process that is individualized.
 - Multiple ideas shared regarding how we hold students accountable, what is or should be required, and how do get students to do the work.
 - Some worried we may become too prescriptive where both students and mentors will not want to participate. Others expressed constant struggle around being supportive and requiring students to do the work necessary;

A. Recommendation:

Examine how materials are made available and how information is delivered to students in a timely manner as they progress on their thesis.

A. Action Items:

1. Create a network of timely, topical resources for students, advisors and thesis mentors to utilize on our website. Ensure accurate information can be found on the TheSIS organization on Blackboard and on the HC website. Materials need to be rewritten and/or redesigned to ensure inclusive, condensed information is available. Materials need to clearly define what is integral to the thesis process and convey clear requirements.
2. Create a tool(s) that assists students and thesis mentors in communicating expectations and needs; Tool(s) should clearly state the responsibilities of the student, mentor and the HC.

3. Create a system by which thesis milestones are tracked in order to ensure timely completion and pertinent communications, as well as accountability.
4. Create a set of mentor communications to alert thesis mentors of milestones for their mentee.
5. Establish a process in which practices and policies are reviewed annually and improved.

B. Conversation Themes:

- Clear path from Start to completion and where to go for help
 - Assist students with outlining a timeline that is appropriate for their chosen path, and with an emphasis on individualization, as many students find it difficult to fit the thesis in with all of the other things demanding time and attention
 - Assist students with determining when is the best time to Start the thesis process. The current structure stresses getting Started early which may be overwhelming for some who feel they need to acquire additional knowledge and skills.
 - An emphasis on the student having a go-to person within the HC when a crisis comes up or exceptions need to be made.
- Mentor and project fit - Finding a research interest and mentor that is a good fit. Very little investment currently in this process, while students need support/advise through a research/interview process;
 - Additional assistance with discovering what research is happening and how to present self to get involved.

B. Recommendation:

Utilize the HC academic advisors to support and personalize a student's experience when navigating the HC thesis process. Having established and built a relationship with the student the academic advisor would act as a student's go-to person for thesis process support.

B. Action Items:

1. Create a customizable map to be used by students and advisor to chart a path for successful completion. The map should incorporate a Starting point, graduation date and term dates for major milestones along the way. The map needs to be trackable for all milestones in order to deliver communication and interventions as needed.
2. Create a process by which students are coached in identifying a thesis project and mentor, independent of the Learn and Undertake courses. The process should consider the various ways by which students can Learn about faculty and their research interests. In addition the process should help to build skills students may need to be successful with the thesis such as communication, and exploration of personal values and interests.

3. Create a professional development plan to train and empower advisors to answer questions from students or mentors regarding the process, mentor/mentee expectations, and to assist with crises or suggest and approve exceptions as needed.

C. Conversation Themes:

- Support for the writing process - 'It can be the dreaded element and what often postpones a student's completion.
- Consistent course policies are necessary with the HC 408 course for make-ups, incompletes, etc.

C. Recommendation:

Explore gaps in the current TheSIS curriculum and develop additional course(s) to teach skills needed in order to complete the thesis.

C. Action Items:

1. Create a fourth course in the suite of TheSIS courses designed to supplement the thesis writing process. This Graduate course should focus on assisting students in the final stretch to reach graduation. Guiding materials to consider include WR 599 (Burton), INTL 408 (Fleury), or BRR 406 & 407 (Crannell);
2. Establish common policies for late work, missed class sessions or missing assignments among all of the HC 408 courses.
3. Work with Student Multimedia Services to create a video tutorial on creating a scientific poster.

D. Conversation Themes:

- Messaging – Our organizational voice around the thesis is too vague. Shared desire to show the value to students within our marketing materials, 'surround them with the evidence of the benefits.' Some stressed the need to collect data to track the actual benefit.

D. Recommendation:

Examine the messages sent to prospective students, current students and alumni regarding the value of the thesis.

D. Action Items:

1. Create a marketing plan directed to current students that conveys the value of completing a thesis with the HC. The marketing plan should deliver specific messages at various milestones along the path to completion.
2. Integrate the marketing plan into Start, Learn, Undertake, and Graduate courses as well as thesis guidelines for mentors

The Authors

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