RECORD OF ACADEMIC ACHIEVEMENT

The Evergreen State College - Olympia, Washington 98505

OFFICIAL TRANSCRIPT DOCUMENT

Webb, Skyler O — A00414109

Last, First Middle — Student ID

DEGREES CONFERRED:

Bachelor of Science — Awarded 10 Jun 2022

TRANSFER CREDIT:

Start	End	Credits	Title
01/2016	01/2016	8	**AP: World History**
01/2017	01/2017	8	**AP: Biology**

EVERGREEN UNDERGRADUATE CREDIT:

Start	End	Credits	Title
09/2018	06/2019	48	**Integrated Natural Science** *15 - General Biology with Lab I, II and III* *16 - General Chemistry with Lab I, II and III* *5 - Physical Geology* *4 - Environmental Geology* *4 - Group Research Project* *2 - Statistics with Excel* *2 - Science Communication*
09/2019	06/2020	30	**Matter and Motion** *12 - Calculus and Analytical Geometry I, II, and III* *18 - University Physics I, II, and III with Laboratory*
09/2019	12/2019	4	**EastWest Psychology: Cultivating Mental Well Being** *4 - East-West Psychology: Cultivating Mental Well Being*
01/2020	03/2020	7	**From the Ground Up: Writing Natural History** *4 - Introduction to Natural History* *3 - Natural History Writing*
03/2020	06/2020	2	**Tutoring Math and Science Across Significant Differences** *2 - Issues in Education*
09/2020	06/2021	44	**Molecule to Organism** **9 - Molecular Cell Biology* **5 - Microbiology* **15 - Organic Chemistry I, II, and III* **10 - Biochemistry I and II* **5 - Developmental Biology*
09/2021	06/2022	24	**Psychology of Mind Body Medicine** *6 - Health Psychology* *6 - Abnormal Psychology* *3 - Social Science Writing* *3 - Integrative Health Practices* *3 - Psychoneuroimmunology* *3 - Interpersonal Neurobiology*
09/2021	03/2022	8	**Undergraduate Research in Scientific Inquiry with N. Murray** **8 - Undergraduate Research in Molecular Biology*

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EVERGREEN UNDERGRADUATE CREDIT:

Start	End	Credits	Title
09/2021	12/2021	4	**Photography: Foundations** *4 - Photography*
01/2022	03/2022	4	**Photography: Digital Processes** *4 - Digital Imaging*
03/2022	06/2022	4	**Photography: Studio Practice** *4 - Photographic Studio Lighting*

Cumulative

195 Total Undergraduate Credits Earned

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College life as a first-generation student is hard. Yet here I am. Reflecting on the last 4 years. I'm about to be the first in my immediate family to receive my bachelor's degree. I have Evergreen to thank for the skills that helped me finish this endeavor. Now I can focus on giving back to my community, but first, let me tell you how I got here.

Right away I learned that if I was to be successful at evergreen, I would need to change my academic strategy. No longer am I going for a good grade. At Evergreen we discussed content in detail to foster a deeper understanding of the world around us. My first year in INS was full of seminars about connections between biology, chemistry, and geology. This led me to complete my work more thoroughly so I could participate in these rich and exciting discussions. INS also taught me most of what I know about the laboratory. I will never forget about smashing up chicken liver to learn about thermodynamics and catalysts!

The study habits I picked up early in INS would serve me well in upper-division work. In a program called Molecule to Organism, I underwent the rigor of molecular biology, organic chemistry, and microbiology all online. This strange mode of learning did not slow me down though. I studied hard and helped my instructors work out the kinks in their classes. Now we know what to do if something like this happens again so we can keep the flame of education burning bright. Learning deeply about the world around us in upper-division biology filled me with awe for the rest of my life. Thinking about the beautiful complexity of something as simple as a leaf makes me happy!

Learning photography here at evergreen is also an experience I will never forget. Something about capturing a moment in time at the press of a button seems so compelling. Blending images into a creation greater than the sum of its parts was also an empowering scholarly adventure. We can evoke feelings, raise concerns, and tell stories all without even uttering a word. Part of the joy is these stories that we tell through images can also be about anything. This leads to delightful mixtures of academics and art. I plan to stay engaged with this versatile art form. I wish to give what I learn away to minds eager to capture their own story.

College life as a first-generation student was hard! Thanks to Evergreen's resources and my hard work, I am finally finishing this chapter of my life. I can't wait to get out into our community to spread my enthusiasm for science, art, and kindness. Maybe one day I will inspire someone to embark upon their own educational journey.

Webb, Skyler O — A00414109
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March 2022 - June 2022: Photography: Studio Practice

4 Credits

DESCRIPTION:
Faculty: Carrie Chema

Photography: Studio Practice was an advanced level photography class that was an experiential studio art course. This class focused on techniques and concepts of photography in the context of both continuous and strobe based lighting studio practices. Students gained experience with studio equipment, tungsten and electronic flash lighting techniques; still-life and portrait photography in a studio environment as well as on-location shoots using professional-grade lighting equipment.

This class was project based and included three large assignments over the duration of the quarter. Students began their studies of light with a still life project where they gained familiarity with controlling light in the studio environment. Then they moved to a portraiture assignment which allowed them to shoot on location, if they chose, exploring ideas of identity, and the ethics of representation in photography. The course culminated with a final project that asked students to create a series of ten images that were engaged with a theme, idea, mood, or issue of the student's choice. Emphasis throughout the quarter was placed on the production of this professional-quality portfolio which was designed to demonstrate student's advanced knowledge of studio lighting equipment, techniques and image editing to support their conceptual theme.

EVALUATION:
Written by: Carrie Chema

Skyler capped off an exceptional year of photographic learning with Photography: Studio Practice this quarter. Prior to this class, Skyler completed two other photography courses this year and demonstrated through all of them his sharp intellect, deep creativity, and incredible ability to synthesize learning objectives across all course topics. To look at Skyler's photographic work across this year of learning is to witness his profound growth as a photographer and visual communicator.

Skyler remained engaged with all course concepts throughout the entirety of the class and was an active member of our learning community providing valuable, insightful feedback for his peers during critiques and group discussions. Skyler completed all class exercises and assignments, demonstrating thorough understanding of all learning objectives associated with each project. Skyler gained experience and proficiency with studio lighting techniques both within the formal lighting studio and on location, the latter of which seemed to be his preference.

Skyler's learning throughout the quarter culminated in a final portfolio that employed a sophisticated use of linear narrative structure. In this body of work, Skyler told a story of return to nature by leading the viewer through his personal relationship with nature and close observations of the world around him that he performs as a centering activity amidst his busy life. Through his images, Skyler points to the ways our lives can become disconnected from nature and how one can find pathways back along with the benefits this intentional relationship with nature can provide. Skyler used a wide variety of lighting strategies throughout this portfolio in order to emphasize his conceptual goals. He showed a rich understanding of both natural and artificial lighting techniques along with creative applications of both. This portfolio was a triumphant capstone to Skyler's photographic studies this year.

It was such an honor and joy to get to learn with and from Skyler this year. I wish him all the best in his future work. Skyler is phenomenally creative, talented, intelligent and kind and passes all those attributes on to others who are lucky enough to be in his orbit.

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SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 4

4 - Photographic Studio Lighting

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January 2022 - March 2022: Photography: Digital Processes

4 Credits

DESCRIPTION:
Faculty: Carrie Chema

This course introduced students to photographic practice through digital means. Building from students' existing photographic skills and vocabulary, we explored image-making with digital cameras, scanners and entirely digitally created assets. We worked with post-production image editing and manipulation (photo-montage, digital collage) using Adobe Bridge, Lightroom, and Photoshop. Through a series of photographic projects, students developed a digital portfolio of photo-based artwork.

Learning objectives for students in this course were as follows.

Scholarship:

1. Applied focused attention on the digital photographic process and physical outcome of their investigations.
2. Gained technical proficiency in Adobe Photoshop, Lightroom, Bridge.
3. Developed an appreciation of the work from a wide variety of photographers and digital artists.
4. Critically and ethically evaluated their relationship to the subjects of their work.
5. Learned the craft of digital imaging through the committed engagement and study of the technique associated with the medium.
6. Created and presented a final portfolio of creative, well-crafted digital artworks.

Critical Evaluation of Works:

1. Applied inquiry and reflection through the critique of their own photographs and those of their peers.
2. Responded to readings that address issues of ethical, social, historical and technological uses of the medium.
3. Made photographs that address these same issues.
4. Discussed these same issues in an open studio environment.
5. Participated in critique and discussion of both the technical and conceptual aspects of students' work and the work of other photographers and artists.

EVALUATION:
Written by: Carrie Chema

Skyler had another excellent quarter of photographic learning in Photography: Digital Processes. Building upon his work last quarter in Photography: Foundations, Skyler continued to develop technical skills while also refining his aesthetic and conceptual ambitions for his visual artworks. He is becoming increasingly skilled at translating his ideas into images that communicate clearly to viewers. Skyler started out with three strong images for assignment #1 on double exposures. The highlight of this project was a diptych that he created that showed the transformation of a homestead and surrounding farmland. In the first image, the landscape is green and unassuming, in the second the area has flooded with a remarkably high water level. The images together allude to the passage of time and speak more broadly to the inherent, often invisible, history of places.

Skyler demonstrated understanding and, often, mastery of every learning objective associated with the various assignments for the class. His work for project #3 on digital collage showed his progressing skill

with many selective editing techniques including masking, making selections, and even creating his own image components. Skyler successfully used Photoshop tools to create an image of flames that he incorporated into the final artwork.

Skyler's work for the quarter culminated in a final portfolio of three digital photo-montages that showed his tremendous growth with post-processing techniques over the class. The images are cohesive and well-rendered. Skyler could continue to refine his use of artificial shadows to make images blend more realistically but the portfolio was an absolute triumph. Skyler remained true to his aesthetic and interest in astro-photography throughout this work and the prints that resulted were well-edited with rich, inviting shadows and crisp detail.

As a member of the class community, Skyler was positive, welcoming, kind and a real leader. His feedback for others in the class was always constructive and supportive. Skyler enriched all discussions in which he participated and remained actively engaged with all class content throughout the quarter. It was truly a joy to have Skyler in class. He had an excellent eye for photography that is becoming more and more sophisticated, confident and focused.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 4

4 - Digital Imaging

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September 2021 - December 2021: Photography: Foundations

4 Credits

DESCRIPTION:
Faculty: Carrie Chema

Photography: Foundations was an introductory course for learning and exploring the visual language of lens-based digital photographic imagery. Students developed skills and knowledge through hands-on experience with various types of capture devices i.e. cell phones, scanners, and consumer grade digital cameras. Historical and critical study, enabled students to understand, value, and appreciate the creative process within the context of the visual arts. As a hands-on studio art class, *Photography: Foundations* introduced students to the creative potential of digital image-making which culminated in a final portfolio project on a theme of each student's choice. Through project development, peer-to-peer feedback sessions and large group critiques, students worked to gain technical photographic skills while thinking about how these techniques supported their conceptual goals.

EVALUATION:
Written by: Carrie Chema

Skyler had an excellent quarter of learning in *Photography: Foundations* and was a dedicated, hard-working, and thoughtfully engaged member of our class community. Skyler was a leader in class critiques and small group discussions due to Skyler's generous feedback. Skyler was always present in conversation. This was an incredibly kind and supportive quality that Skyler offered that enriched our entire class experience.

Skyler improved by leaps and bounds in his own photographic works this quarter. From the start, Skyler's work was deeply intelligent and thoughtfully constructed. In project #2 on the elements of design, Skyler demonstrated an understanding of design principles that he would continue to carry forward into all future projects. He also showed an inherent eye for the transformative power of light in images which he continued to explore throughout the quarter.

Skyler's work culminated in a final portfolio of 10 images that all circulated around the theme of "wonder." The process of creating this body of work was a meandering one for Skyler. Through the process of shooting, assessing images, and continuing to workshop his project theme, Skyler morphed from his original concept (exploring scale in his images) to excavate the real underlying meaning that was at play in this work. Ultimately Skyler realized that the work was really about "wonder." Skyler showed excellent problem-solving, grit, and introspection through the process of developing this portfolio. The results were a body of work that was fascinating and full of nuanced moments for viewers to discover. Many of these images could and would work as stand-alone photographs but as a group they gained much richer meaning. This is one mark of a successful photographic series. In addition, Skyler demonstrated skill and understanding of camera control, editing, and composition.

Skyler was a joy to have in class and was a skilled visual communicator. I hope he will continue to develop his photographic interests and wish him all the best in these future pursuits. I'm very excited to see what is next for Skyler.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 4

4 - Photography

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September 2021 - March 2022: Undergraduate Research in Scientific Inquiry with N. Murray

8 Credits

DESCRIPTION:
Faculty: Nancy C. Murray, PhD

In 2014, research published in *Oecologia* by Monica Gagliano's lab detailed groundbreaking (and controversial) work that stated plants have the ability to learn to discriminate between different stimuli. This was controversial because plants do not have neurons or a nervous system of any kind. Even more controversial was that they remembered the non-threatening stimulus up to 30 days post-training. Since that paper was published, there has been little to no work aimed at elucidating the mechanism by which the plant can discriminate between the different stimuli. As a senior Bachelor of Science student, Christine set out with a fellow student to hone her lab bench skills in pursuit of determining the mechanism. Christine's research attempted to find the means for *Mimosa's* apparent memory using molecular biological techniques to map out the signaling pathway the plant uses. To do this, she grew plants from seeds, devised a system for stimulating the plants to habituate them. She then created a cDNA library from both habituated and non-habituated plants. These libraries will then be sequenced and screened to look for differential gene expression between the two plants samples. Any differences may indicate that the expression of a gene or a set of genes has been turned on or off to allow for the discrimination between different stimuli.

EVALUATION:
Written by: Nancy C. Murray, PhD

Skyler made excellent progress in his capstone research. He first approached me before the fall quarter to describe his goals for an independent research project. Given his background and interests, I connected him with a project that had been dormant as a result of the COVID-19 pandemic. Because I had worked with Skyler in a previous program (Molecule to Organism), I knew well his passion for the sciences, his work ethic, and his determination to succeed. As such, I readily agreed to sponsor him for a research project in my lab.

Over the quarter, Skyler worked with another classmate and was an integral part of that research team. He brought his curiosity, enthusiasm, and intellect to each discussion. Along with his partner, he worked diligently doing background research and learning the requisite techniques at the lab bench. He spent hours designing and refining the setup to stimulate the plant and collect and analyze the data. Learning to extract mRNA from the leaf samples to generate cDNA libraries (a representation of the genes expressed) also required quite a bit of work and skill development. His ability to work independently was impressive. In fact, for the majority of the winter quarter, the only assistance provided was when he needed to be trained on some instrumentation. Not only did he habituate the plants, he and his partner successfully created the cDNA libraries from them. The next phase of the project is to sequence the libraries and look for differences in gene expression. This will be left for future research students.

Often times you will find students who succeed in the classroom but are all thumbs when it comes to bench or fieldwork. Skyler is unique in that he excels in both areas. He has an innate desire to learn the background material, ask the right questions, and the drive to work out answers to those questions both on paper and at the bench. Skyler and his lab partner also wrote and submitted an internal Capstone grant to support their work. Their proposal was accepted and they were awarded $400 to procure parts and reagents. As the quarter comes to a close, the strong and steady progress on the project they made will be picked up by future students.

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Overall, Skyler has had two successful quarters of learning and this project truly represented a culmination of his undergraduate education and passions. Skyler is a talented individual with the smarts and the drive to make the most of any project he is involved with. I look forward to seeing what is in his future.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 8

*8 - Undergraduate Research in Molecular Biology

* indicates upper-division science credit

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September 2021 - June 2022: Psychology of Mind Body Medicine

24 Credits

DESCRIPTION:
Faculty: Mukti Khanna, Ph.D.

Psychology of Mind Body Medicine was a three-quarter program that explored how psychology is being integrated in the theory and practice of Mind Body Medicine in diverse health care settings. The program studied the fields of health through both evidence-based medicine and traditional holistic medical models from civilizations including China, India, and Japan. Students had the option to participate in an International Symposium with universities from India, China, and Vietnam. The program explored the need to develop integrative health and consciousness-based practices to promote immune system support, emotional resilience, and prevention in the face of public health needs.

The program introduced integrative health models from both the field of health psychology and Mindbody Medicine from multicultural medical perspectives that are based on seasons, diet, and interpersonal neurobiology to promote health and wellness. The program explored multicultural perspectives from the traditional world medical systems of the Medical Qigong, Ayurveda, and Jin Shin Jyutsu. Students explored interdisciplinary ways of promoting health, including communication, health care practices, Jin Shin Jyutsu self-care practices, and engagement with social issues though the American Psychological Association resolutions on health equity. Students read diverse texts on integrative health, mental health and abnormal psychology including works by Brannon, Brink, Jahnke, David, Kshirsagar, Redvers, Siegel and Sue.

Students completed weekly online learning on health psychology and abnormal psychology with quizzes and conceptual integration modules. Students wrote Deepening Reflections and conceptual papers on integrative health practices and theory. Students worked on social science writing through writing resumes, academic statements, and a prospectus. Students applied diverse health care practices to case studies through a Grand Rounds integrative health presentation and created an integrated wellness plan for diverse physical and mental health cases. Spring collaborative teamwork included offering integrative heath workshops for the program presentation “Deep Medicine” for the campus wide equity symposium. Students also created Social Health Care kits in teams to provide paraprofessional integrative health resources for diverse mental health conditions. During winter and spring quarters, students choose to work on one of three tracks in addition to the Core program community-based internships, independent study, or in-program electives on psychoneuroimmunology and interpersonal neurobiology.

Learning goals for the program included developing a theoretical and applied understanding of the knowledge base of psychology through studying health psychology, abnormal psychology, social science writing, and understanding theoretical and applied integrative health practices.

Student evaluation was based primarily on achievement of program learning objectives, participation, and completion of required assignments.

EVALUATION:
Written by: Mukti Khanna, Ph.D.

Skyler successfully completed the *Psychology of Mind Body Medicine* program. Skyler has been an integral member of the learning community throughout the program and helped to create a cohesive and engaged learning community. Skyler has continued to actively demonstrate applied and theoretical awareness of sociocultural and diversity issues to healthcare practice throughout the program in both academic and applied work.

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Skyler demonstrated a satisfactory understanding of health psychology and an emergent understanding of abnormal psychology through theoretical assessments and online curriculum. Skyler also demonstrated a very good understanding of health psychology and abnormal psychology theory and application, participating in Grand Rounds Integrative Health case presentations and creating team Wellness Plans. Skyler has made excellent progress in describing and differentiating among the major psychological and world medical approaches to understand health and mental health in both theory and integrative practice. Skyler was able to successfully apply this theoretical knowledge to the program projects on "Giving Psychology Away" in facilitating a collaborative workshop on Dr. Dan Siegel's "Wheel of Awareness" for the campus wide Equity Symposium "Tending this Moment" and in creating an outstanding paraprofessional Social Health Care Kit on Adolescent Mental Health. Both of these projects developed advanced skills in collaborative learning and interdisciplinary integration.

Skyler has shown consistent progress in developing APA social science writing skills to all program work individually and in collaborative learning projects. Some of Skyler's social science writing could use more development of theoretical content. Skyler consistently demonstrated strong and creative oral presentation skills in collaborative team Grand Rounds on health psychology and abnormal psychology. Skyler's interpersonal neurobiology paper on Oppositional Defiance Disorders reflected a good interdisciplinary synthesis and of psychology and integrative health theories in addressing this condition in youth.

The good work that Skyler completed in the program was foundational for future studies in psychology and integrative health.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 24

6 - Health Psychology
6 - Abnormal Psychology
3 - Social Science Writing
3 - Integrative Health Practices
3 - Psychoneuroimmunology
3 - Interpersonal Neurobiology

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September 2020 - June 2021: Molecule to Organism

44 Credits

DESCRIPTION:
Faculty: Andrew D. Brabban, Ph.D., Nancy C. Murray, Ph.D., and Paula Schofield, Ph.D.

Molecule to Organism was a full year interdisciplinary science program that included upper division organic chemistry, biology and biochemistry. Although each subject was listed separately, the material was delivered in an integrated manner, approaching many concepts from both biological and chemical perspectives. The program was delivered during the 2020/21 Coronavirus COVID 19 (SARS CoV 2) pandemic. Classes were held under the Washington State Governor Jay Inslee's “Stay Home, Stay Healthy” order, therefore no in-person classes or laboratory activities were conducted. Each week, students watched approximately 8 hours of narrated lectures (including PowerPoint, writing tablet, video formats), completed 6 hours of applied problem sets, and attended 5 hours of “live” Zoom Q&A sessions. Students were evaluated on their weekly work and quizzes, submitted via Canvas. While laboratory work was not conducted, class material and Zoom sessions did contain many practical examples. Based on their background and interest, students were allowed to start the program in any quarter, and could elect to take the entire program, or select disciplines within the program.

Molecular Cell Biology: The study of molecular and cellular biology was posited around the concept that the cell is the fundamental unit of life. Through this lens, students studied prokaryotic and eukaryotic cell structure, eukaryotic model organisms (yeast, *Drosophila melanogaster*, and *Xenopus laevis)*, chromosomal organization of coding and non-coding regions, DNA mutations and repair mechanisms, protein structure and function, molecular genetic mechanisms (eukaryotic transcription and translation), biomembrane structure, membrane transport, protein trafficking, cell cycle regulation, post-transcriptional control mechanisms, molecular genetic techniques bioinformatics, and signal transduction pathways. Each week, students’ understanding of the material were assessed on quiz and problem sets. The questions on these assessments were designed to test the student’s ability to apply the information they learned. The textbook used was *Molecular Cell Biology,* by Lodish, et al., 8th edition.

Microbiology: The class began by examining the broad variety of microorganisms so far identified, ways of growing and measuring growth, the biochemistry of these species and their varying cellular structure. It then progressed to a more in depth examination of microbial metabolism and a review of alternative forms of anabolism and catabolism such as chemolithotrophy and anaerobic respiration. The breadth of the field of microbiology was covered from microbial genetics and genetic exchange mechanisms to environmental cycling and diazotrophy. This work was presented against the backdrop of the environmental and healthcare importance of these organisms, evolutionary principles and used critical thinking to examine experimental data. Although there was no laboratory component, material was structured to teach the students the theory behind practical microbiology such media types, dilution series and MPN, and growth rate calculations. Weekly quizzes were designed to test the qualitative and quantitative reasoning of the students and their ability to apply learned material to solve experimental problems. Textbook: Madigan, M., Martinko, J., Bender, K.S., Buckley, G.H., Sattley, W.M., and Stahl, D.A. *Brock's Biology of Microorganisms*, 15th ed.

Organic Chemistry I, II, and III: In fall quarter, specific concepts included electronic structure, physical properties, chemical bonding, acid-base properties of organic molecules, stereochemistry, nomenclature of most functional groups within organic chemistry, electron delocalization and resonance. The chemistry of alkanes, alkenes, alkynes were examined in detail, and the fundamental mechanism of electrophilic addition was emphasized. In winter quarter, topics included reactions of free radicals, alcohols, ethers, amines, sulfur-containing compounds, and the use of some organometallic reagents. In addition, reactions of acid derivatives and aldehydes and ketones were studied, emphasizing the mechanisms of

nucleophilic acyl substitution and nucleophilic addition. In spring quarter, the chemistry of enols and enolates, condensation and conjugate addition of carbonyls, benzene, phenols and aryl halides were covered. In addition, organic laboratory and instrumentation methods were covered in detail, specifically the theory and data analysis of 1H and 13C NMR, FTIR, GCMS. Rigorous problem solving assignments reinforced the application of these instruments in molecular structure elucidation. Throughout the year, stereochemistry, thermodynamics and kinetics were used as fundamental and guiding principles within all topics. An emphasis was placed on students solving advanced synthetic problems, including retroanalysis. Students were assessed through two assignments per week, in addition to weekly online quizzes. The text used was *Organic Chemistry,* by Bruice, 8th edition.

Biochemistry I and II: The major topics covered in this portion of the program were the characteristics of biological molecules (amino acids and proteins, coenzymes, carbohydrates, and lipids), acid/base/pK_a, the nature of biological catalysis, individual metabolic sequences and the coordinated biochemical processes that are a cellular system. Biochemical topics were approached from a thermodynamic perspective with emphasis placed on the roles of entropy and energy in biology. The central ideology of this program: structure, function and property, was a recurring theme used to examine the nature of biology in relation to the organic mechanisms and kinetics involved in biological catalysis. Students were evaluated on the quality of weekly submitted homework and on-line examinations. During the quarter, class work was drawn from *Lehninger: Principles of Biochemistry*, (7th edition, 2017), by Nelson and Cox.

Developmental Biology: Developmental biology is the study of becoming, of change, and of the many cellular and molecular mechanisms accounting for those changes during an animal's life. This portion of the program built on the molecular cell biology concepts covered in fall and winter quarters. Using the text, *Developmental Biology* by Gilbert and Barrresi, 11th edition, students studied the following topics: fertilization, *Drosophila* and amphibian axis formation, neurulation, patterning the central nervous system and brain growth, neural crest cells and axonal specificity, limb development, and metamorphosis. Learning goals included the development of analytical and critical thinking, quantitative reasoning and reading skills. Weekly activities included asynchronous lectures, workshops, and homework. Students were assessed by their performance on weekly quizzes and workshop/homework assignments.

EVALUATION:
Written by: Andrew D. Brabban, Ph.D., Nancy C. Murray, Ph.D., and Paula Schofield, Ph.D.

Skyler entered the program to gain a background in upper division biology and chemistry in preparation for a career in science education. His work in all areas of the program is described below.

Molecular Cell Biology

Skyler did very solid work in his study of molecular cell biology. He completed 18 of 18 quizzes and 17 of the 17 homework assignments. His performance on them demonstrated a very strong ability to address scientific questions in a logical manner and to synthesize complex information about biological processes. During group Zoom sessions, Skyler was active in discussing concepts and ideas with peers. Skyler never hesitated to clarify concepts by asking questions during Zoom or by email.
Skyler's responses to the short answer questions on quizzes were often spot on and his work was high quality. Skyler was also a very diligent student who faithfully attended all sessions and always completed assignments on time.

Microbiology

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Skyler made very good progress in this one-quarter study of microbiology demonstrating his comfort with this new material, as evidenced in his submitted homework and on-line examination grades. Skyler was a very organized and diligent student who always attended the synchronous Zoom sessions and contributed to the group learning process, asking and answering questions. Throughout, he showed his ability to apply these concepts in a problem-solving manner to the applied homework problems, which were often excellent. To conclude, Skyler has developed a very good comprehension of the principal concepts and applied components of general microbiology, microbial genetics, biochemistry, and physiology.

Organic Chemistry I, II, and III

In the organic chemistry component of the program, Skyler completed all homework assignments and quizzes, and attended all live Zoom sessions. Skyler's contributions to organic chemistry discussions and problem-solving sessions on Zoom were noteworthy, and were always beneficial to the learning community. His submitted work improved over the year and is good to very good; his weekly quiz scores were solid. Overall, Skyler has developed a strong grasp of the fundamentals of organic chemistry, including structure-property relationships, stereochemistry, and thermodynamic principles governing molecular structure and reactions. In addition, Skyler showed a good understanding of organic reactions, mechanisms, and multi-step synthetic sequences. As a result, Skyler was quite successful in applying his knowledge to solve applied synthetic and mechanistic problems. Skyler also showed a solid ability to determine the structure of unknown organic compounds using 1H and 13C NMR, FTIR, and GCMS spectra and data. In short, Skyler's work in organic chemistry was good.

Biochemistry I and II

Skyler was diligent in his approach to his education, and this was displayed in the way he faithfully attended all Zoom sessions, and handed in required material on time. Skyler has developed a good comprehension of the principal concepts covered in this two-quarter study of biochemistry. His on-line examinations covering biomolecules and biocatalysis demonstrated a good understanding of the theories behind the material, and showed his ability to deal with associated qualitative and quantitative problems. His examination performance in the second module (bioenergetics and catabolic pathways) was fair. He submitted all of the required homework and overall they were good.

Developmental Biology

Skyler was a motivated and active learner who completed all assignments in a timely fashion. All of his work was of high quality. His strong quiz scores reveal a deep understanding of the concepts presented. In fact, many of his answers were models of solid scientific thinking. It was evident that he took careful notes when watching the asynchronous lectures and he regularly engaged during the synchronous Zoom sessions by always asking probing questions to clarify any concepts that were unclear. His answers to the essay homework questions also revealed that he understood the material at a deep level. Overall, Skyler has done excellent work in his study of developmental biology this quarter.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 44

*9 - Molecular Cell Biology
*5 - Microbiology
*15 - Organic Chemistry I, II, and III
*10 - Biochemistry I and II
*5 - Developmental Biology

* indicates upper-division science credit

Webb, Skyler O — A00414109

Last, First Middle — Student ID

March 2020 - June 2020: Tutoring Math and Science Across Significant Differences

2 Credits

DESCRIPTION:
Faculty: Vauhn Foster-Grahler, MS, M.Ed

Tutoring Math and Science for Social Justice was designed to enhance students' skills working with diverse people, and to introduce students to a variety of student-centered pedagogies and discuss their effectiveness. In addition, students explored issues of power and privilege around race, gender, and socio-economic status and how these dynamics impact teaching and learning. Due to the pandemic, all classes were conducted remotely.

Students read parts of *Power, Privilege and Difference,* by Allan Johson and excerpts from a variety of texts and articles. Students observed in the QuaSR Center, prepared seminar prep guides, participated in weekly seminars, kept a journal, and wrote a summative journal entry.

EVALUATION:
Written by: Vauhn Foster-Grahler

Skyler fully participated in all aspects of the course and submitted all their work on time. Skyler was an active and positive participant in seminar and in class activities. Skyler successfully met all requirements for credit.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 2

2 - Issues in Education

Webb, Skyler O — A00414109
Last, First Middle — Student ID

January 2020 - March 2020: From the Ground Up: Writing Natural History

7 Credits

DESCRIPTION:
Faculty: Karen Hogan, Ph.D, and Suzanne Simons, MFA

In this writing-intensive program, we explored what science is and how it works, specifically through the natural history of the tropics and developing skills in multiple genres of writing, including field journals, essay, poetry, synthesis, and a collaborative research project, often contrasting this with scientific papers written by and for scientists. Our central questions included what is lost in the scientific process when writing for a general audience? What is gained? What are the strengths and limitations of scientific papers written for specialized audiences?

Program objectives included the ability to appreciate the importance of natural history writing to everyone's health and well-being by connecting with our environment; fluidity as readers and writers in understanding natural history through multiple genres, including science writing, essay, poetry, and journalism; skill at communicating concepts of natural history through drawing and multiple senses.

Required books included *Natural History of the Senses* by Diane Ackerman, *Stranger in the Forest: On Foot Across Borneo* by Eric Hansen, *Tropical Nature: Life and Death in the Rain Forests of Central and South America* by Adrian Forsyth and Ken Miyata, and *Bamboo Ridge Anthology Issue 104,* Eric Chock and Darrell Lum, eds.

EVALUATION:
Written by: Suzanne Simons, MFA

Skyler met most program requirements. An active participant, he was engaged in class, usually prepared, and demonstrated a strong grasp of program themes. His critical thinking skills are of upper division undergraduate level, his writing skills are intermediate undergraduate level, and he had excellent attendance.

Skyler's field journal began with great promise and fine attention to detail and thorough descriptions and reflections. His final exam/reflection was very good, thorough, accurate, and an honest articulation of his learning. He included a poem from *Bamboo Ridge* anthology that was particularly meaningful to him, and a call to action of confidence, joy and gratitude. While his response papers would have been stronger had he more consistently quoted examples from the texts to support his arguments, Skyler's papers consistently illustrated strong critical thinking skills and reflection on the texts. For example, in his response paper to a series of readings on art and activism, Skyler noted:

> "...Throughout history, oppression has had many commonalities. There always seems to be two groups of people when it comes to these sorts of topics: The folks that want to learn about how oppression works and how to fix it, and those that capitalize on making others feel inferior, or are apathetic. This can be seen in the civil rights movement, the Chicano movement and women's suffrage…"

Skyler worked equally well individually and collaboratively. In his final presentation as part of his group's research on noise pollution and birds, Skyler synthesized the natural history portion of the research, and read his clever poem on birds, "Flying Physicists," a rhymed couplet piece that wove in math that was one of the highlights of Skyler's work in the program. An excerpt:

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> "We humans think we have physics figured out/but our feathered friends know more without a doubt.//We use equations, with cosine and pi/yet their inner calculus lets them soar through the sky//…"

In terms of learning across significant differences, Skyler's engagement in seminar with classmates and discussing assigned texts, such as *Tropical Nature,* illustrated careful listening, reading and reflection. His seminar participation was insightful and thought-provoking, while also being an effective listener.

Next academic steps for Skyler could be to meet program requirement with attention to time management, to continue writing multiple drafts of major assignments, as a means to continue to deepen his critical thinking and communication skills, and, finally, continue crafting poems.

Overall, Skyler was a delightful and dedicated student. From his work in the program, he is well-prepared for more advanced study in the liberal arts.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 7

4 - Introduction to Natural History
3 - Natural History Writing

Webb, Skyler O — A00414109
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September 2019 - December 2019: EastWest Psychology: Cultivating Mental Well Being

4 Credits

DESCRIPTION:
Faculty: Jamyang Tsultrim, MA. Loppon Degree

The emphasis of this course was the analysis of positive cognition/emotions, their influence on our psychological well-being, and methodologies for cultivating and improving constructive experiences and understanding their function in daily life domains. Students synthesized their learning experiences into a final paper on developing mental well being program either for personal care or as a foundation for work in the helping professions. Student evaluation was based primarily on student achievement of class learning objectives, attendance, in-class participation, and completion of mid-term, final program, seminar preparedness papers, mindful self-compassion workbook and developing compassion profile paper. The main textbooks for this fall quarter were: *A Fearless Heart* by Thupten Jinpa; *Altered Traits: Science Reveals How Meditation Changes Your Mind, Brain, and Body* by Daniel Goleman and Richard Davidson; and *The Mindful Self-Compassion Workbook* by Kristin Neff and Christopher Garmer.

EVALUATION:
Written by: Jamyang Tsultrim, M.A., Loppon degree

Skyler Webb fulfilled all the requirements of this class. He showed particular strength in engaging actively with all class activities. He was very responsible in completing all the assignments and attending all the classes. He achieved a foundational understanding of mental well being through completing a mid-term paper, developing compassion profile paper, and maintaining active in-class participation during smaller seminar discussion. In particular, Skyler‘s mid-term paper showed a solid understanding of the topic and methods for cultivating mental well being both from direct experiences and familiarity with the contents of the assigned readings. This paper examined the comparison and contrast analysis on the topics from East-West perspectives. To develop practical experience in cultivating mental well-being, he completed mindful self-compassion workbook practices/exercises and kept a good documentation of them throughout the quarter. These workbook assignments indicated that he gained both theory and practice of mindful self-compassion. In addition, Skyler participated in a full day retreat on the theory and practice of mindfulness and compassion to expand his understanding of mind/emotion and to further explore the effectiveness of the practice through direct experience.

In particular, Skyler demonstrated both theoretical understanding and practical methods for developing mental well being by completing a final paper entitled "Emotion Regulation." This final paper demonstrated his insight on the topic initially being aware and identifying difficult emotions, developing effective methods and designing his program for beginners. He then developed a comprehensive five-week program and applied multiple methods including mindfulness, self-compassion and preventive interventions at the end of the program. Standard academic writing utilizing APA style and format was appropriately applied in the final paper. Because of his development in understanding and cultivating mental well-being, he was inspired to integrate it into his social science studies in near future.

In brief, Skyler clearly achieved a foundational understanding and developed skills in cultivating mental well-being for this class. He also outlined the achievement of the course learning objectives in his self-evaluation and stated that this course prepared him for his personal growth and academic preparedness for further social science studies. He has shown genuine enthusiasm and is prepared to advance to further studies in these topic areas.

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SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 4

4 - East-West Psychology: Cultivating Mental Well Being

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Last, First Middle — Student ID

September 2019 - June 2020: Matter and Motion

30 Credits

DESCRIPTION:
Faculty: Krishna Chowdary, Ph.D., Vauhn Foster-Grahler, M.Sc., M.Ed.

The year-long program *Matter and Motion* covered topics in calculus and analytical geometry, general chemistry, and university physics through lectures, workshops, and labs. The description below is for students who took calculus and physics and opted out of chemistry. Students improved their mathematical and scientific reasoning and their problem-solving abilities in calculus and physics. In addition to content coverage described below, students were given the opportunity to: improve their ability to articulate and assume responsibility for their own work; strengthen skills and sensitivities in collaborative learning with the goal of creating a more inclusive classroom; improve oral and written communication skills; improve reading of technical texts to develop conceptual understanding and procedural skills; develop increasingly sophisticated mathematical models to describe and explain physical systems. Depending on the subject area, evaluations of student achievement were based on: quizzes, exams, and revisions; homework assignments; lab write-ups and notebooks; engagement in lectures, workshops, and labs. The program shifted to all remote online sessions in spring quarter in response to the coronavirus pandemic, so previously in-class assessments shifted to at-home assessments and lab activities had to be modified, but content coverage was consistent with that of more typical years.

Calculus and Analytical Geometry I, II, and III: This year-long calculus sequence engaged students with the topics found in a standard three-quarter calculus sequence. The focus in fall quarter was concepts, techniques, and applications of differentiation. In winter students engaged with concepts, procedures, and applications of integration and were introduced to differential equations. In spring quarter, students studied a variety of topics and applications related to vectors and functions in space including partial derivatives, the gradient, directional derivatives, and iterated integrals. Students were also introduced to sequences and series including Taylor and Maclaurin series. Students completed a project during spring quarter modeling cancer tumors using spherical coordinates. Students used graphing calculators, Desmos and Mathematica throughout the year to investigate and illustrate concepts, problems, and solutions. Collaborative learning and approaching problems algebraically, numerically, graphically, and verbally were emphasized. In addition to course content, students were evaluated on the following process outcomes: Use of correct mathematical notation and procedures, development and/or interpretation of mathematical models, appropriate use of technology, use of multiple representations to solve and model problems, understanding of functions, use of logical and correct critical reasoning, and effective communication of mathematics. The text used was *Calculus: Concepts and Contexts, 4th ed*. James Stewart, chapters 1-6, parts of chapter 7, chapters 8-11, and parts of chapter 12. During fall and winter quarters students were assessed with both in-class, resource-limited exams and take-home exams. During spring quarter, all exams were take-home.

University Physics I, II, and III with Laboratory: Through readings, lectures, workshops, and labs, students focused on conceptual understanding, analytical problem-solving, and computational methods in: classical mechanics; thermodynamics and statistical mechanics; electricity and magnetism; and waves and optics. Students participated in 32 lab investigations that emphasized acquisition and analysis of data (often with Vernier sensors and software with increased reliance in spring on video analysis and simulations) and computational modeling (via programming in VPython in the GlowScript environment); students submitted summaries for 27 labs. Students also completed 26 problem sets totaling 384 textbook problems that they self-corrected using instructor-provided solutions. Students took 16 in-class limited-note quizzes and cumulative final exams in fall and winter; in spring, the 8 quizzes and cumulative final exam were at-home but still resource-limited. Students were encouraged to revise quizzes and

exams. Students worked through chapters 1-23 and S1 in *Matter and Interactions* (Chabay and Sherwood, 4th ed).

EVALUATION:
Written by: Krishna Chowdary, Ph.D., Vauhn Foster-Grahler, M.Sc., M.Ed.

Skyler Webb took *Matter and Motion* as part of an integrated study of the sciences and to meet endorsement requirements for teacher preparation programs. Skyler made excellent progress in meeting those goals, as detailed below. Having previously taken general chemistry, Skyler opted to take just the calculus and physics portion of the program. Skyler was a good contributor to our learning community and is very well prepared for further work in math and science.

Calculus and Analytical Geometry I, II, and III: Throughout the year Skyler had excellent attendance and was always prepared for class. Skyler was an active and positive member of the class and was a strong and positive contributor to group activities both in person and when we moved to remote instruction in the spring. Skyler was often a leader in groups and worked well with a diverse group of students. Skyler's written assessments were satisfactory throughout the year, and as Skyler's confidence grew, performance on written assessments improved and often demonstrated near-proficient to proficient performance for each of the process outcomes for the entire content of Calculus I, II, and II. Skyler is prepared to take more advanced math and science and is encouraged to do so. Skyler was a distinct pleasure to have in class.

University Physics I, II, and III with Laboratory: Overall, Skyler's work in physics was very good to excellent. Good final exams at the end of each quarter exam were supplemented by excellent revisions. Overall fair quizzes in fall and spring and good quizzes in winter were followed up by revisions that showed nicely improved understanding. Skyler submitted nearly all the lab summaries, which showed engagement with activities and analysis. Skyler submitted essentially all of the problem sets, completed about 3/4 of the assigned problems through the year, and had strong engagement with self-correction process, particularly in winter and spring. Skyler was highly engaged in lecture and workshop, worked quite well with classmates, and demonstrated very good understanding of the material in these sessions. Skyler is very well prepared for intermediate to advanced work in physics.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 30

12 - Calculus and Analytical Geometry I, II, and III
18 - University Physics I, II, and III with Laboratory

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September 2018 - June 2019: Integrated Natural Science

48 Credits

DESCRIPTION:
Faculty: John Kirkpatrick, Ph.D., Nancy C. Murray, Ph.D., and Ken Tabbutt, Ph.D.

This program integrated general chemistry, physical geology, and general biology, providing a rigorous and intensive foundation in the natural sciences.

It is intended for students who are interested in pursuing more advanced coursework in biology, chemistry, and the earth sciences. This interdisciplinary program focused on transformations of matter and energy in and between living and nonliving systems. This provided students an opportunity to gain an understanding of biological, chemical, and physical earth processes on a variety of scales. Students engaged with these themes using an experimental approach to develop critical and quantitative reasoning skills.

Using the text *Biological Science*, 6th ed., by Freeman, students studied the basic tenets of evolution, mitosis and meiosis, Mendelian genetics, DNA replication, transcriptional regulation (prokaryotic and eukaryotic), translation, and biological molecules, cellular respiration, photosynthesis, cell cycle regulation, developmental biology, and cardiac and neurophysiology, plant and animal sensory systems, and ecology. In the lab, students acquired bench skills in data collection and analysis, aseptic technique, bacterial growth and antibiotics, polymerase chain reaction (PCR) and restriction digest, enzyme regulation, differential centrifugation, cardiac physiology plant growth, meiofauna exploration (tardigrades), taxonomy and sampling with transects. Students were assessed based on their performance on weekly quizzes and homework assignments, workshop sessions and laboratory notebook and reports.

Physical and environmental geology provided a foundation in the Earth Sciences. *Earth: An Introduction to Physical* Geology by Tarbuck, Lutgens and Tasa was used as a text and topics covered included plate tectonics, minerals, rock forming processes, crustal deformation and time. Data analysis using quantitative methods was integrated with theory. Two field trips to Mount St. Helens and the Washington coast examined geological features and allowed students to synthesize information and connect theory to practice.

During winter quarter the focus shifted to geologic processes and human communities; natural hazards, including volcanism, earthquakes, floods and tsunamis were examined as well as fossil fuel, mineral resources, and global climate change. Primary literature, articles from the popular press and informational videos augmented the textbook readings. Students demonstrated their understanding of the material through discussions, quizzes, and workshops. Students often worked in peer groups in order to develop collaborative skills.

Chemistry covered college-level General Chemistry, using *Chemistry: the Central Science* by Brown et al. as a foundation. Autumn quarter covered essential concepts for college-level work, including dimensional analysis, unit conversion and significant figures, & SI units; the nature of atoms, molecules, and ions; stoichiometry; solution chemistry; thermochemistry and calorimetry; and electronic structure, orbitals, and the nature of energy. The winter quarter moved beyond foundational concepts to include chemical bonding, molecular geometry, intermolecular forces, gas chemistry, properties of solutions, and kinetics. The program concluded in spring with equilibria, acid-base chemistry and solubility, thermodynamics, and an introduction to organic chemistry.

Chemistry topics were examined in lecture, through individual and group problem-solving, and through an assortment of laboratory activities including qualitative analysis, calorimetry and bond enthalpy,

titration, spectrometry, colligative properties, gas chemistry, and assessment of unknown solutions. Evaluation of students is based on their conceptual understanding of these concepts as well as their ability to apply them to solve questions quantitatively.

Statistical analysis with Excel taught students how to import, analyze and display numeric data. Students learned descriptive statistics, histograms, skewness and kurtosis; probability (classical and relative frequency); inferential statistical test including Chi-square and t-tests; and regression analysis (linear and nonlinear).

In spring quarter, students engaged in a 2 month group research project focused on analyzing water chemistry at three local sites and the biology of microfauna at one site in Puget Sound (Bud Bay). This was a collaborative project, with student groups all working together to create and share a time series data set capturing key parameters of local watersheds over the spring season. Measurements and observations included pH, alkalinity, nutrients, suspended particulate matter, and phytoplankton microscopy. Students kept field notebooks, recorded observations, and took water and plankton samples. In the lab, students were asked to specialize in one analytical technique, learn and optimize that technique, and apply it to provide data for their own and their peers' use. Techniques for analyzing nitrate, phosphate, and alkalinity were based on EPA protocols. Student groups then analyzed data and presented their findings in short talks in front of their peers.

Scientific Communication was a spring quarter module that provided students opportunities to distill complex primary literature into understandable language for a lay audience. One project had students examining a primary literature paper and a corresponding NPR article for a general audience. Students worked in groups to examine what parts of the paper were included and excluded from the NPR article and to provide a rationale for those decisions. For the second assignment, students were asked to read a primary literature paper on ocean acidification and pH changes. They were tasked with writing an article for a non-science audience based on that paper. The third and final assignment required students to research the pros and cons of a local issue regarding an endangered species, the Mazama pocket gopher. For all three of these projects, students were required to present their findings to their peers, giving them experience presenting information in front of an audience.

EVALUATION:
Written by: Faculty: John Kirkpatrick, Ph.D., Nancy C. Murray, Ph.D., and Ken Tabbutt, Ph.D.

Skylar is a serious student who has shown strong engagement with the intellectual content of the program. He has a strong work ethic that is reflected in his academic performance. From the beginning, he appeared to enjoy doing lab work, and seem to learn best when he could connect what he had learned in lecture to the lab. His attendance was excellent. What follows is an evaluation of his work this year.

General Biology I, II and III with Laboratory

Overall, Skyler has made excellent progress in biology. He is conscientious and has a tenacious work ethic. He is committed to understanding the material at a deep level and when he has questions, he sought out help from faculty and peers. Skyler's effort is reflected in his excellent quiz scores and his detailed and complete answers to homework problems. Displaying a strong ability to articulate his own knowledge and thinking, he was a leader in his workshop group, able to serve as both a patient teacher and a respectful listener. In the lab, he was a careful and deliberate worker. He maintained a lab notebook that improved with feedback and is now organized, detailed and easy to follow. He did excellent work in the field exercises. During the observation exercises, he took copious notes that included a high level of detail. Overall, Skyler has had an outstanding year learning biology. He is well prepared to do more advanced work in biology.

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General Chemistry I, II and III with Laboratory

Skyler Webb completed one year of general chemistry studies as part of his enrollment in Integrated Natural Sciences (INS). In short, his work was excellent.

Skyler's participation in class and laboratory was active and welcome, and he had a clear enthusiasm for the topic. He had a positive attitude and a willingness to work with his peers, often contributing to collaborative learning activities. He demonstrated a very good knowledge of the material and was highly capable of applying it in his problem solving. He worked hard on his problem sets, and the results were apparent in his quizzes and in-class activities. His engagement in laboratory activities was high, and his laboratory reports were strong. He often deduced the properties of our "unknown" samples with notable accuracy. In our weekly quizzes, he showed he was doing an excellent job keeping up with the course content and its applications. In rare instances when quizzes highlighted what topics could use additional review, Skyler responded positively. He has developed very good quantitative skills. Skyler is very well prepared for further studies in chemistry and the sciences.

Physical Geology

Based on the results of his quizzes, problem sets and field trip workshops, Skyler gained an excellent understanding of the material covered this quarter. He was very engaged and his attendance was excellent. Skyler completed all the quizzes and his scores were consistently excellent, reflecting a thorough understanding of the material. Similarly, he completed all but one the problem sets and, although less consistent, they demonstrated a very good understanding of the material. Skyler attended both field trips and his workshop reflected the ability to synthesize information and apply his knowledge in the field.

Environmental Geology

Skyler's overall understanding of environmental geology was excellent; he applied himself diligently and completed nearly all assignments in a timely manner. Skyler's quiz scores were consistent and reflected an outstanding understanding of the material and the ability to solve quantitative problems. His essays improved during the quarter and several indicated that he can critically assess scientific papers and write in a clear and concise manner. Skyler is prepared to do more advanced work in the earth sciences.

Statistics with Excel

Skyler completed all of the statistics labs and demonstrated a proficiency with Excel. Based on the labs, his understanding of descriptive statistics, probability, inferential statistics and regression was very good. In general, he did careful work, rarely making mistakes. He also worked collaboratively, helping peers that were stuck on a problem.

Group Research Project

Skyler participated in a field research project aimed at investigating water chemistry and changes in phytoplankton species composition in a local estuary. He has developed experience with spectrophotometric measurements of nutrients, nitrate. He asked good questions about calculating results, and maintained a project notebook. He displayed good teamwork skills. His work using the microscope to investigate and identify phytoplankton was also good and he gained experience with the range and types of organisms that live in the local estuary. Overall, Skyler was an asset to his team members, with a can-do attitude.

Science Communication

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In the science communication component of the program, Skyler completed all of the assignments. The work in this portion of the program was heavily group focused and he showed an excellent ability to work as part of a team. During group presentations, he demonstrated a strong ability to understand and wade through complex topics in the primary literature and the ability to translate that information to a non-science audience. During presentations, Skyler showed he is not intimidated in front of an audience and speak and he did very well in this aspect of the program. He took a leadership role in the mock debate, serving as the spokesperson for his group. In that setting, he articulated his points clearly and effectively.

SUGGESTED COURSE EQUIVALENCIES (in quarter hours) TOTAL: 48

15 - General Biology with Lab I, II and III
16 - General Chemistry with Lab I, II and III
5 - Physical Geology
4 - Environmental Geology
4 - Group Research Project
2 - Statistics with Excel
2 - Science Communication

EVERGREEN

The Evergreen State College • Olympia, WA 98505 • www.evergreen.edu

EVERGREEN TRANSCRIPT GUIDE

Accreditation: The Evergreen State College is fully accredited by the Northwest Commission on Colleges and Universities.

Degrees Awarded: The Evergreen State College awards the following degrees: Bachelor of Arts, Bachelor of Science, Master of Environmental Studies, Master of Public Administration and Master In Teaching. Degree awards are listed on the Record of Academic Achievement.

Educational Philosophy:

Our curriculum places high value on these modes of learning and teaching objectives:

- Interdisciplinary Learning
- Collaborative Learning
- Learning Across Significant Differences
- Personal Engagement
- Linking Theory with Practical Applications

Our expectations of Evergreen Graduates are that during their time at Evergreen they will:

- Articulate and assume responsibility for their own work
- Participate collaboratively and responsibly in our diverse society
- Communicate creatively and effectively
- Demonstrate integrative, independent, critical thinking
- Apply qualitative, quantitative and creative modes of inquiry appropriately to practical and theoretical problems across disciplines, and,
- As a culmination of their education, demonstrate depth, breadth and synthesis of learning and the ability to reflect on the personal and social significance of that learning.

Our students have the opportunity to participate in frequent, mutual evaluation of academic programs, faculty and students. In collaboration with faculty and advisors, students develop individual academic concentrations.

Academic Program

Modes of Learning: Evergreen's curriculum is primarily team-taught and interdisciplinary. Students may choose from among several modes of study:

- **Programs:** Faculty members from different disciplines work together with students on a unifying question or theme. Programs may be up to three quarters long.
- **Individual Learning Contract:** Working closely with a faculty member, a student may design a one-quarter-long, full-time or part-time research or creative project. The contract document outlines both the activities of the contract and the criteria for evaluation. Most students are at upper division standing.
- **Internship Learning Contract:** Internships provide opportunities for students to link theory and practice in areas related to their interests. These full- or part-time opportunities involve close supervision by a field supervisor and a faculty sponsor.
- **Courses:** Courses are 2-6 credit offerings centered on a specific theme or discipline.

The numerical and alpha characters listed as Course Reference Numbers designate modes of learning and are in a random order.

Evaluation and Credit Award:

Our transcript consists of narrative evaluations. Narrative evaluations tell a rich and detailed story of the multiple facets involved in a student's academic work. A close reading of the narratives and attention to the course equivalencies will provide extensive information about student's abilities and experiences. Students are not awarded credit for work considered not passing. Evergreen will not translate our narrative transcript into letter or numeric grades.

Transcript Structure and Contents: The Record of Academic Achievement summarizes credit awarded, expressed in quarter credit hours. Transcript materials are presented in inverse chronological order so that the most recent evaluation(s) appears first.

Credit is recorded by:

Quarter Credit Hours:	Fall 1979 to present
Evergreen Units:	1 Evergreen Unit (1971 through Summer 1973) equals 5 quarter credit hours
	1 Evergreen Unit (Fall 1973 through Summer 1979) equals 4 quarter credit hours

Each academic entry in the transcript is accompanied by (unless noted otherwise):

- The Program Description, Individual Contract or Internship Contract which explains learning objectives, activities and content of the program, course or contract.
- The Faculty Evaluation of Student Achievement provides information on specific work the student completed and about how well the student performed in the program or contract.
- The Student's Own Evaluation of Personal Achievement is a reflective document written by the student evaluating his or her learning experiences. Students are encouraged but not required to include these documents in their official transcript, unless specified by faculty.
- The Student's Summative Self Evaluation is an optional evaluation summarizing a student's education and may be included as a separate document or as a part of the student's final self- evaluation.

Transfer credit for Evergreen programs, courses and individual study should be awarded based upon a careful review of the transcript document including the course equivalencies which are designed to make it easier for others to clearly interpret our interdisciplinary curriculum. These course equivalencies can be found at the conclusion of each of the Faculty Evaluation of Student Achievement.

The college academic calendar consists of four-eleven week quarters. Refer to the college website (www.evergreen.edu) for specific dates.

This record is authentic and official when the Record of Academic Achievement page is marked and dated with the school seal.
All information contained herein is confidential and its release is governed by the Family Educational Rights and Privacy Act of 1974 as amended.
If, after a thorough review of this transcript, you still have questions, please contact Registration and Records: (360) 867-6180.