



# SURVEYING TECHNICIAN CAREER LAUNCH PROGRAM PROPOSAL

Clark College & MacKay Sposito Partnership

## Partners

Clark College

MacKay Sposito



## Program Checklist

**P1. Program description including length of program in years and total hours (including split between classroom and worksite).**

Program Description: Surveying and Geomatics involves the accurate assessment, measuring, and plotting of land and water boundaries for development projects that include buildings, roads, and bridges. Clark's program uses state-of-the-art land surveying equipment and techniques to prepare students for entry-level work in government and private sector roles.

In the world of Surveying and Geomatics, outdoor projects are routine. Land surveyors determine boundaries of land, air space, and water for the use of property development and legal descriptions. Survey technicians work out in the field, and work activities can include providing data relevant to the shape, contour, location, elevation, or dimension of land features. Clark's program provides opportunities for students to learn on equipment used in real-world situations. Classes meet in the evenings and weekends, and Clark offers an Associate in Applied Science degree that provides training in survey techniques and methods.

Length of Program: 8 quarters, 24 months.

Total Contact Hours: 109 Hours.

**P2. Estimated number of hours per week at worksite and in classroom (this approach may shift throughout the program).**

Hours per week at worksite: 8-20 hours.

Hours per week in classroom: 77 hours in classroom; 32 hours in structured lab environment.

**P3. Demonstration of labor market demand for specified skills/career in local region**

The Surveying Technician Career Launch Program addresses the occupations within Surveying and Mapping Technicians occupation (17-303X).

Clark College is located within the Portland-Hillsboro-Vancouver metropolitan area, which means that the economic region includes a broader six county region (Clark, Skamania, Klickitat, Multnomah, Washington and Clackamas). Within this economic region, there were 641 jobs in 2019. There are 71 annual openings, with only 33 annual completions in this broader region; this creates an annual workforce shortage of 38.

From January 2019 to February 2021, there were 226 unique job postings – from 68 employers. This represented 23 jobs posted per month, which resulted in 28 monthly hires, indicating increased demand to address workforce needs. Additionally, there is an expected 7.9% growth in the next 10 years for this occupation, resulting in an additional 50 jobs for the region.

Therefore, the Surveying Technician Career Launch Program creates intentional career pathways for new and incumbent workers to address this workforce shortage.

**P4. Projected count of student enrollment, student completion, and anticipated employer participation for 5 years, post-pilot.**

	<b>Baseline</b>	<b>Year 1 (2021-2022)</b>	<b>Year 2 (2022- 2023)</b>	<b>Year 3 (2023- 2024)</b>	<b>Year 4 (2024- 2025)</b>	<b>Year 5 (2025- 2026)</b>
<b>Student Headcount</b>	41	40	42	42	42	42
<b>Full-Time Equivalent Student (FTES)</b>	18.3	18	19	19	19	19
<b>Completion</b>	8	8	9	9	9	9
<b>Employer Participation</b>	1	1	1	2	3	3

MacKay Sposito has one intern at a time, fluctuating in number per year based on student availability, seasonal work, and length of service by the student. Increasing employer participation will provide opportunities for early exposure and growth of knowledge and skills. This will require awareness to employers about the role of the program in preparing surveying technicians, high school district partners, and regional community partners.

Current student enrollment and graduates support the local industry capacity; therefore, growth is not a priority for the program, but rather focused on building hands-on, work-based learning opportunities for students through employer recruitment.

**P5. Concise description of development process to create the Career Launch program (e.g., who was involved, when, how was the program piloted, etc.)**

The Clark College Surveying Program was initially developed in 2007. In 2007, industry approached Clark College stating that there was a shortage of surveying technicians, with no other training partner in the region. Therefore, in 2007, Clark College started a 1-year surveying technician program; the program was taught by 4 professional surveyors in the region to support a rapid start-up. In 2008, Clark College started the 2-year Associate of Applied Science (AAS) degree.

In 2019, industry partners actively engaged in funding the program to support ongoing operations. Currently, MacKay Sposito and Olson Engineering provide the college with \$10,000 each annually to support program overhead. In addition, 8 additional industry partners contribute \$1,000 - \$3,000 to holistically support program operations.

Career Launch is a natural extension of the partnership between MacKay Sposito and Clark College. Discussions started in Summer 2020 in development, with pilot program in effect. Based on success of the program, additional employer partners will join to create robust work-based learning opportunities for students.

**P6. Signed letter of endorsement from all relevant partners, stakeholders and regional networks (including employers, labor organizations, academic institutions, community-based organizations, individuals, and other relevant stakeholders in support of the proposed Career Launch program). Regional network endorsement preferred.**

Letters enclosed on subsequent pages are from the following partners:

- Clark College
- Educational Service District 112 (Regional Network)
- Career Connect SW

MacKay Sposito endorsement of the Career Launch Program are included in Employer Commitment Letters for I-R9 on Page 13.



March 3, 2021

To the Career Launch Endorsement Review Team:

I write this letter to affirm Clark College's institutional commitment to the Surveying Technician Career Launch Program, with the initial partnership with MacKay Sposito. This program provides students with industry-defined curriculum and meaningful, high-quality on-the-job experience during their educational experience.

I am proud to say that this program also supports Clark College's strategic plan in the core themes of academic excellence, social equity and economic vitality as well as the values of social justice, partnerships, and innovation. The Surveying Technician Career Launch Program exemplifies this commitment through implementation of this creative and agile strategy to enhance student learning, and alignment of the Surveying Program to meet regional workforce needs.

The Surveying Technician Career Launch Program is applying for endorsement between Clark College and MacKay Sposito. Students concurrently enroll in the Clark College Surveying Program and work at MacKay Sposito. To ensure that all students have the resources to address academic and non-academic issues, Clark College provides dedicated wrap-around student support to meet their individualized needs. This comprehensive program, with intentional integration of course curriculum and work-based learning opportunities, provides articulation pathway to successfully transfer to a baccalaureate geomatics program and/or enter the workforce with the knowledge, skills and abilities to be successful as a surveying technician.

Building on the intensive industry partnership with MacKay Sposito, the partnership between Clark College and MacKay Sposito will provide additional career pathways for students to support local industry. Upon endorsement, all levels of leadership here at Clark College are confident that the implementation will continue to support the region's need for surveying technicians well into the future.

Sincerely,

A handwritten signature in black ink, appearing to read "Karin Edwards".

Dr. Karin Edwards  
President  
Clark College



To the Career Launch Endorsement Review Team:

The Career Connect Southwest Network is excited to support the Surveying Technician Career Launch Project, with partnerships between Clark College and MacKay Sposito.

At Career Connect SW, we recognize the need for:

- Private/public partnerships that provide students with a career pathways that also provide competitive candidates to meet our business needs
- Meaningful, high-quality on-the-job experience, with defined competencies and skills gained through experience.
- Curriculum developed in partnership with employers and industry, to ensure state-of-the-art curriculum is aligned with occupations in-demand.
- Dedicated wrap-around student support to ensure students have the resources to be successful in academic and non-academic issues.
- Alignment of pathways from K-12 through postsecondary education and career trajectory.
- Career pathways for incumbent workers to upskill for career trajectory.

The Surveying Technician Career Launch Project is an exemplary program, providing students with meaningful, high-quality on-the-job experience that is concurrent with aligned academic curriculum.

On behalf of Career Connect SW, we commit to working with the Surveying Technician Career Launch Project to make this program successful in the following specific ways:

- Support to analyze labor market
- Develop K-16 guided pathway aligned to jobs
- Recruiting and engaging private and public sector organizations
- Raise students' awareness of different career options
- Ensure equitable inclusion of youth of color, low income youth, youth from rural communities and youth with disabilities.

The impact of this program is vital to meeting our regional workforce needs and we support endorsement of this exemplary program.

*Vicki Hrdina*

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**Vicki Hrdina**

Director of Career Readiness & STEM Initiatives  
Teaching and Learning



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2500 NE 65th Avenue | Vancouver | WA | 98661



## EDUCATIONAL SERVICE DISTRICT 112

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TIM MERLINO

To the Career Launch Endorsement Review Team:

ESD 112 is excited to support the Surveying Technician Career Launch Project, with partnerships between Clark College and MacKay Spósito.

At ESD 112, we recognize the need for:

- Private/public partnerships that provide students with a career pathways that also provide competitive candidates to meet our business needs
- Meaningful, high-quality on-the-job experience, with defined competencies and skills gained through experience.
- Curriculum developed in partnership with employers and industry, to ensure state-of-the-art curriculum is aligned with occupations in-demand.
- Dedicated wrap-around student support to ensure students have the resources to be successful in academic and non-academic issues.
- Alignment of pathways from K-12 through postsecondary education and career trajectory.
- Career pathways for incumbent workers to upskill for career trajectory.

The Surveying Technician Career Launch Project is an exemplary program, providing students with meaningful, high-quality on-the-job experience that is concurrent with aligned academic curriculum.

On behalf of ESD 112, we commit to working with the Surveying Technician Career Launch Project to make this program successful in the following specific ways:

- Convene and support Career Connect Intermediaries and other local partners in the region
- Help them achieve their outcomes related to Career Launch endorsement and participation of young people in Career Launch activities
- Ensure equitable inclusion of youth of color, low income youth, youth from rural communities and youth with disabilities.

The impact of this program is vital to meeting our regional workforce needs and we support endorsement of this exemplary program.

**Tim Merlino**

Superintendent



**P7. Description of resources, supports, or other processes to recruit and support students from underserved backgrounds; or create an implementation plan to do so.**

With potential program expansion, the program will intentionally recruit students from underserved backgrounds with specific support from ESD 112 (Career Launch Regional Network), Workforce Southwest Washington (Career Launch Program Intermediary), as well as the NEXT Center (a comprehensive center serving young adults ages 16-24 that do not have a clear pathway to work, training or post-secondary education). These intentional partnerships aim to recruit participants that reflect the diversity in the community.

Once students enroll in the program, Clark College offers a variety of supports to assist students from marginalized populations in achieving their educational and professional goals – including the following:

- Appreciative Advising Model that supports students in a holistic manner. All new students are assigned an Academic Advisor who assists with academic and non-academic supports throughout their journey at Clark College.
- Workforce Education Services provides a variety of supports to assist low-income students to include, alternative financial aid, access to subsidized childcare, maintenance of public benefits while in school, emergency grants, and assistance in preventing homelessness. Students receive assistance in barrier removal and connections to internal and external resources.
- Disability Support Services (DSS) office assist students with disabilities in pursuing their educational goals. Clark College is committed to assuring that its services, programs, and activities are accessible to individuals with disabilities.
- The Office of Diversity and Equity is committed to serving marginalized populations. The Diversity Center, is a safe space for students to study, meet new people and experience a sense of belonging.
- The Penguin Pantry supports a healthy college community by reducing hunger on campus and connecting students to essential resources.
- Career Services provides a wide array of resources that can assist students with job search skills and securing full-time employment and internships. There are a variety of Student Success Workshops that are offered throughout the academic year to assist students with their professional development, academic success and personal development.

## Industry-Related Checklist

### **I-R1. Address of worksite(s) where Career Launch students will complete supervised training.**

MacKay Sposito  
1325 SE Tech Center Drive, Suite 140  
Vancouver, WA 98683

Report to location above and accompany field staff to daily site location or work out of the office depending upon weekly project workload.

### **I-R2. Hourly wage for Career Launch participants.**

Participants start at \$18/hour. This usually includes increase pay rates as skills advance.

### **I-R3. List of entry-level positions and associated job descriptions for which a Career Launch student would be eligible for upon completion.**

#### **SURVEY INSTRUMENT PERSON**

**SUMMARY:** As the Survey Instrument Person, you'll be under general supervision from the Survey Party Chief and will assist in the gathering and preparation of supporting data for land survey projects.

#### **ESSENTIAL DUTIES AND RESPONSIBILITIES:**

- Maintain and calibrate and operate the following survey equipment: data collectors, total station (full robotic and manual modes), GPS (with RTN and RTK), digital and auto levels, terrestrial scanners, and echo sounder hydrographic system.
- Compile and organize a variety of field data as well as keep clean, legible field notes for the performance of the following field surveys: cadastral, geodetic control, horizontal control and vertical control, boundary, ALTA and platting, construction and asbuilts, monitoring and hydrographic.
- Adjust and calibrate tribrachs, tripods and rods as needed.
- Perform basic mathematic calculations in the field.
- Upload and download files from data collectors

#### **KNOWLEDGE, SKILLS, ABILITIES:**

- Candidates must have a high school diploma/GED.
- Excellent communication skills.
- Must be a highly motivated individual with strong attention to detail.
- During site visits, must be able to walk, lift, carry, stoop, bend, twist and work in the outdoors on uneven surfaces routinely. Site visits may include exposure to weather extremes and rough or uneven terrain.

**I-R4. List of specific skills and competencies required for completion of Career Launch program, with demonstrated alignment to entry-level positions, job descriptions, and average local salary ranges.**

Specific skills and competencies for the Career Launch program are aligned with the professional standard for entry-level positions from National Society of Professional Surveyors (NSPS):

<b>Technical Competency</b>	<b>Description</b>	<b>Aligned Courses</b>
Types of Surveys	Knowledge of the different types of surveying and the basic differences between them.	SURV 121, SURV 122, SURV 163, SURV 202, SURV 203, SURV 223
Field Equipment & Instruments	Knowledge of the care, cleaning and use of surveying tools and equipment, including field radios. Understand the names, purpose and parts, setup, transport and the need for calibration of various surveying field instruments. Some historical knowledge is required.	SURV 121, SURV 122, SURV 163, SURV 253
Survey Computations	Knowledge of mathematics and measurements relating to surveying (including linear, angular, elevations and unit systems conversion).	SURV 121, SURV 122, SURV 163, SURV 104, SURV 264
Control Points: Horizontal & Vertical	Knowledge of types of survey control points and their differences.	SURV 121, SURV 122, SURV 163, SURV 252, SURV 253
Field Operations	Knowledge of the field duties of a Survey Technician. Such duty areas may include line clearing, establishing points, taping, leveling and compass reading.	SURV 121, SURV 122, SURV 163, SURV 202
Field Notes	Knowledge of the basic types of surveying field notes.	SURV 121, SURV 122, SURV 163, SURV 202, SURV 223, SURV 225
Plan Reading	Knowledge of the types of surveying maps and the ability to obtain basic information from these maps.	SURV 121, SURV 122, SURV 163, ENGR 113
First Aid & Safety	Basic knowledge of treatment practices for a variety of medical emergencies. Knowledge of traffic control and safety procedures for surveying and construction operations, including Occupational Safety and Health Administration (OSHA) standards.	SURV 121, SURV 122, SURV 163
Drafting/CAD	Knowledge of basic drafting and CAD skills, tools and procedures.	ENGR 140, SURV 122, SURV 125, SURV 225, SURV 264
Electronic Instruments	Knowledge of the handling, setup and care of electronic instruments and their accessories.	SURV 121, SURV 122, SURV 163, SURV 253
Surveying History	Knowledge of the historical development of survey procedures and practices.	SURV 121, SURV 122

For the aligned positions, the entry-level hourly wage is at or higher than \$16.91 (10<sup>th</sup> percentile of wage earners).

**I-R5. Employer attests that Career Launch program is in compliance with required federal, state, and local regulations.**

Attestation is included in MacKay Sposito Employer Letter (See I-R9, page 13).

**I-R6. Employers will outline a student supervision and mentorship model.**

Employer agrees to provide exemplary supervision of participating student employees:

1. Provide job orientation concerning surveying department procedures during scheduled work hours.
2. Provide training, guidance and supervision of the intern/extern.
3. Assign sufficient quality work (based on technical evaluation areas) to occupy the intern during scheduled hours.
4. Accurately complete time sheets and list accomplishments of the intern/extern on a regular basis.
5. Adhere to all health and safety codes.
6. Evaluate the intern's/extern's progress at appropriate points during his or her work-based learning/externship.

**I-R7. Description of common career pathway(s) beginning with entry-level position specified with demonstration of likely salary growth over specified time period.**



For students interested in a bachelor's degree, Clark College has an articulation agreement with the Oregon Institute of Technology for a bachelor's degree in Geomatics.

For students interested in pursuing a management position (e.g., Service Manager), Clark College offers a Bachelor of Applied Science in Applied Management degree. This degree builds on the Associate of Applied Science (AAS) degree to provide the managerial knowledge and expertise to meet industry demand. This includes, but is not limited to the following: Foundations of Management; Social Media in Business; Organizational Communication; Organizational Behavior; Business Principles; and Accounting Principles for Managers.

**I-R8. Demonstrated competency alignment with relevant professional standards for specified entry-level positions when applicable.**

Professional standards for Surveying Technicians is based on the National Society of Professional Surveyors. For the Survey Technician Certification, Level 1, the “Level I Technicians are required to demonstrate knowledge of basic first aid skills and safety requirements. The individual in this position possesses a basic knowledge of field operations and types of surveys as well as familiarity with field equipment and procedures used in these functions. Additional skills required include computational ability, survey note taking, drafting/CAD and map reading. Work Elements further describe the requirements related to this position.”

Elements of demonstrated mastery include:

- 1) Types of Surveys.** Knowledge of the different types of surveying and the basic differences between them.
- 2) Field Equipment & Instruments.** Knowledge of the care, cleaning and use of surveying tools and equipment, including field radios. Understand the names, purpose and parts, setup, transport and the need for calibration of various surveying field instruments. Some historical knowledge is required.
- 3) Survey Computations.** Knowledge of mathematics and measurements relating to surveying (including linear, angular, elevations and unit systems conversion).
- 4) Control Points: Horizontal & Vertical.** Knowledge of types of survey control points and their differences.
- 5) Field Operations.** Knowledge of the field duties of a Survey Technician. Such duty areas may include line clearing, establishing points, taping, leveling and compass reading.
- 6) Field Notes.** Knowledge of the basic types of surveying field notes.
- 7) Plan Reading.** Knowledge of the types of surveying maps and the ability to obtain basic information from these maps.
- 8) First Aid & Safety.** Basic knowledge of treatment practices for a variety of medical emergencies. Knowledge of traffic control and safety procedures for surveying and construction operations, including Occupational Safety and Health Administration (OSHA) standards. .
- 9) Drafting/CAD.** Knowledge of basic drafting and CAD skills, tools and procedures.
- 10) Electronic Instruments.** Knowledge of the handling, setup and care of electronic instruments and their accessories.
- 11) Surveying History.** Knowledge of the historical development of survey procedures and practices.

Alignment of specific competencies with coursework is outlined in IR-4.

**I-R9. Signed letter from employer partner.**

Displayed on Page 13.



Vancouver Office

1325 SE Tech Center Drive, Suite 140 Vancouver, WA 98683  
360.695.3411 www.mackaysposito.com

To the Career Launch Endorsement Review Team:

MacKay Sposito is pleased to collaborate with Clark College and its Surveying & Geomatics program for endorsement of the Surveying Technician Career Launch Program. This partnership between Clark College and MacKay Sposito provides students with meaningful, high-quality on-the-job experience that is concurrent with aligned academic curriculum.

At MacKay Sposito, we deliver infrastructure solutions and excellence in leadership while advocating for a better tomorrow. We focus on people, building strong and lasting relationships with our co-workers, clients, and communities. As a regional player offering five primary services to the Energy, Public Works, and Land Development markets, we serve so our communities thrive.

Like other companies in the region, we find it challenging to find employees with the STEM education, skills, and abilities needed to grow our company. We believe that this Surveying Technician Career Launch partnership has and will continue to produce an additional workforce with needed STEM skills and hands-on experiences.

Within an endorsed program, MacKay Sposito commits to partnering in the Surveying Technician Career Launch Program to make this program successful in the following specific ways:

- Compliance with required federal, state, and local regulations for the Surveying Technician Career Launch Program;
- Recruitment of students into the program through community partnerships with K-12, Clark College, and community-based organizations;
- Provide exemplary student supervision and mentorship that allows program participants to gain confidence and skills needed to successfully transition into the workforce;
- Completers of the program will have the knowledge, skills, and abilities for surveying technician jobs at MacKay Sposito, including Survey Instrument Person;
- Consider using the program as an option to skill up our own employees; and
- Provide program participants with the career advancement opportunities, as applicable.

Regional industry needs employees with fundamental surveying competencies. We stand as partner with Clark College to build the best Surveying Technician Career Launch Program that will fully support industry and future workforce needs. This program clearly supports our mission, too. By helping to provide students with the knowledge and exposure to industry needs and an early awareness of technology educational and career pathways, support of this Career Launch program offers MacKay Sposito an opportunity to identify high-quality potential graduates with work-ready surveying technology skills.

We look forward to continuing this partnership with Clark College through the endorsement of the Surveying Technician Career Launch Program.

Sincerely, 

**DERRICK SMITH, PE**  
PRESIDENT / CEO

## Academic-Related Checklist

### **A-R1. List of academic institution(s) providing career-aligned instruction for Career Launch program.**

Clark College

### **A-R2. Curriculum scope and sequence aligned to skills and competencies provided in employment checklist.**

Program outcomes are overarching skills that are emphasized and reinforced throughout several courses in a specific program; they are measurable statements that define what students should know or be able to do by the end of a certificate or degree at Clark College. After successful completion of this program, students will be able to:

- Evaluate, analyze, and explain events, behaviors, and institutions using perspectives and methods in the Social Sciences. (GE)
- Apply a method of scientific inquiry, valid to the natural sciences, to evaluate claims about the natural world. (GE)
- Articulate well-considered ideas and written claims to an academic audience, using effective rhetorical techniques, properly credited evidence, and a command of Standard English. (GE)
- Demonstrate progress toward healthier behaviors. (GE)
- Demonstrate and clearly explain an effective strategy to solve a quantitative problem. (GE)
- Demonstrate interpersonal/human relations skills. (GE)
- Interpret the human experience, within appropriate global and historical contexts, through evaluation, analysis, creation, or performance. (GE)
- Demonstrate use of modern technology, industry standard software, and tools to collect, analyze and interpret data for surveying solutions.
- Apply problem solving skills as a member of a professional team in a field crew.
- Communicate in written form, verbally, and graphically with surveyors and engineers.
- Solve applied mathematical problems related to land surveying.
- Prepare complete field records.
- Practice a code of ethics prescribed by the professional organizations and state codes.



**Surveying & Geomatics Course Sequence, Endorsed by Advisory Committee**

<b>General Education Requirements</b>		
<i>Communication Skills</i>		<b>6</b>
<a href="#">CMST&amp;210</a>	INTERPERSONAL COMMUNICATION (recommended) (5 credits/units)	
<a href="#">PTWR 135</a>	INTRODUCTION TO APPLIED TECHNICAL WRITING (recommended) (5 credits/units)	
<i>Health &amp; Physical Education</i>		<b>3</b>
<a href="#">HPE 220</a>	OCCUPATIONAL WELLNESS (recommended) (3 credits/units)	
<i>Computational Skills</i>		
<a href="#">MATH 103</a>	COLLEGE TRIGONOMETRY	<b>5</b>
<i>Human Relations</i>		<b>3</b>
<a href="#">CMST&amp;210</a>	INTERPERSONAL COMMUNICATION (recommended) (5 credits/units)	
<i>Humanities</i>		
<i>Course Options</i>		<b>3</b>
<i>Social Sciences</i>		
<i>Course Options</i>		<b>3</b>
<i>Natural Sciences</i>		<b>3</b>
<a href="#">PHSC 101</a>	GENERAL PHYSICAL SCIENCE (recommended) (5 credits/units)	
<b>Major Area Requirements</b>		
<a href="#">BTEC 169</a>	INTRODUCTION TO EXCEL	<b>3</b>
<a href="#">CADD 140</a>	BASIC AUTOCAD	<b>4</b>
or <a href="#">ENGR 140</a>	BASIC AUTOCAD	
<a href="#">ENGR 113</a>	ENGINEERING SKETCHING AND VISUALIZATION	<b>2</b>
<a href="#">MATH 111</a>	COLLEGE ALGEBRA (or higher)	<b>5</b>
<a href="#">MATH&amp;151</a>	CALCULUS I (or higher)	<b>5</b>
<a href="#">SURV 102</a>	FUNDAMENTALS OF SURVEY (recommended)	<b>2</b>
<a href="#">SURV 104</a>	COMPUTATION AND PLATTING	<b>5</b>
<a href="#">SURV 121</a>	FIELD SURVEY I	<b>5</b>
or <a href="#">ENGR 121</a>	FIELD SURVEY I	
<a href="#">SURV 122</a>	FIELD SURVEY II	<b>5</b>
<a href="#">SURV 123</a>	PROFESSIONAL ETHICS	<b>1</b>
<a href="#">SURV 125</a>	INTRODUCTION TO GIS	<b>3</b>
<a href="#">SURV 163</a>	ROUTE SURVEYING	<b>5</b>
<a href="#">SURV 202</a>	BOUNDARY SURVEYS	<b>4</b>
<a href="#">SURV 203</a>	LEGAL DESCRIPTIONS	<b>3</b>
<a href="#">SURV 223</a>	BOUNDARY LAW I	<b>3</b>
<a href="#">SURV 225</a>	SUBDIVISION PLANNING A & PLATTING	<b>3</b>
<a href="#">SURV 250</a>	ARC GIS I	<b>3</b>
<a href="#">SURV 253</a>	INTRODUCTION TO GPS	<b>2</b>
<a href="#">SURV 252</a>	MAP PROJECTIONS	<b>2</b>
<a href="#">SURV 264</a>	SURVEY SOFTWARE APPLICATIONS	<b>4</b>
<b>Total Credits/Units</b>		<b>93</b>

**A-R3. Demonstration of student supports (e.g. mentoring, advising, financial aid, tutoring) available for Career Launch students enrolled in the course.**

There are a number of supports available to Career Launch students to assist them in achieving academic success at Clark College:

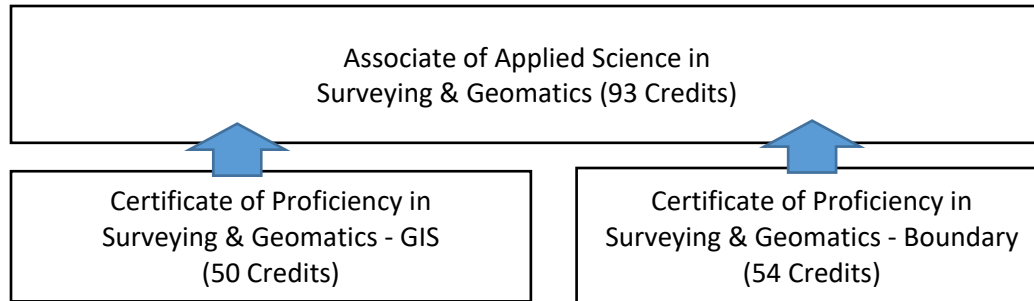
- Clark College has implemented the Appreciative Advising Model that supports students in a holistic manner. This is an intentional collaborative practice of asking positive, open-ended questions that help students optimize their education experiences and achieve their dreams, goals, and potentials. All new students are assigned an Academic Advisor who assists with academic and non-academic supports throughout their journey at Clark College.
- Peer Mentors Clark College Peer Mentor Programs provide an opportunity for students to help others connect to Clark College and community resources, navigate the college, and work toward academic goals.
- Student Success Programs offers a variety of supports to students to include: strategies for balancing classes, work and personal responsibilities, access to college and community resources, assistance with developing and achieving academic goals, and one-on-one support from the Clark College Student Success Coach.
- Tutoring Services is designed to provide individualized attention that facilitates student learning and academic success. Tutors will help students develop skills and confidence to become a stronger, more independent learner. Students who come in for tutoring may also access computers, software, handouts, reference materials, and other resources.
- Financial Aid is available to provide students with a variety of funding supports to help cover the cost of education expenses to include tuition, fees, books and supplies. The Financial Aid Office is available to assist students in understanding financial aid options, to include student loans, grants, work study and scholarships.

**A-R4. Number of postsecondary credits provided and / or credential earned upon completion of program.**

Upon completion of the Associate of Applied Science (AAS) Surveying & Geomatics degree, students will have earned two or three stackable academic postsecondary credentials:

- Certificate of Proficiency - Surveying and Geomatics Technician-Boundary, 54 credits
- Certificate of Proficiency - Surveying and Geomatics Technician-GIS, 50 credits
- Associate of Applied Science, 93 credits

**A-R5. Demonstrated curricular alignment with relevant professional and / or academic standards associated with coursework and credential, when applicable.**



Upon completion of the Associate of Applied Science (AAS) Surveying & Geomatics degree, students will have completed 20 credits of General Education Requirements, as required by accreditation through the Northwest Commission on Colleges and Universities (NWCCU):

- 6 credits of Technical Writing,
- 5 credits of Technical Math,
- 3 credits of Social Science,
- 3 credits of Natural Science, and
- 3 credits of Human Relations.

\*Clark College also requires 3 credits of Health & Physical Education for an Associate of Applied Science degrees.

In addition, students complete 70 credits of Surveying & Geomatics theory and lab skill development.

**A-R6. Details of potential for current or future partnerships and/or scalability of the program within and across sectors and/or geographic locations (e.g. articulation, degree pathways), when applicable.**

Once endorsed, this program plans to expand capacity with additional employer partnerships – particularly if expanded capacity (e.g., space and resources) were available.

Clark College is willing share lessons learned and partnership structure to other community colleges in the state interested in offering this program.