|  |  |
| --- | --- |
| For Academic Affairs and Research Use Only | |
| CIP Code: |  |
| Degree Code: |  |

**Reconfiguration of Existing Degree Program Proposal Form**

**[x] Undergraduate Curriculum Council**

**[ ] Graduate Council**

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

Email completed proposals to [curriculum@astate.edu](mailto:curriculum@astate.edu) for inclusion in curriculum committee agenda.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | Jason Stewart | 12/13/2019 |   **Department Curriculum Committee Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **COPE Chair (if applicable)** |
| |  |  | | --- | --- | | Jason Stewart | 12/13/2019 |   **Department Chair:** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Head of Unit (If applicable)** |
| |  |  | | --- | --- | | Jason Stewart | 1/10/2020 |   **College Curriculum Committee Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Undergraduate Curriculum Council Chair** |
| |  |  | | --- | --- | | Abhijit Bhattacharyya | 1/10/2020 |   **College Dean** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Graduate Curriculum Committee Chair** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **General Education Committee Chair (If applicable)** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Vice Chancellor for Academic Affairs** |

1. **Proposed Program Title**

Bachelor of Science in Land Surveying and Geomatics

1. **Contact Person** (Name, Email Address, Phone Number)

Jason Stewart, [jstewart@astate.edu](mailto:jstewart@astate.edu), 972-3226

1. **Proposed Starting Date**

Fall 2020

1. **Is there differential tuition requested?** *If yes, please fill out the New Program/Tuition and Fees Change Form.*

Yes

**Bulletin Changes**

|  |
| --- |
| **Instructions** |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Follow the following guidelines for indicating necessary changes.**  **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)  - New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font).  - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)  *You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.*  *Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

***\*For new programs, please insert copy of all sections where this is referenced.\****

From p. 63

|  |
| --- |
| Interdisciplinary Studies |
| International Business |
| Land Surveying and Geomatics |
| Management (emphasis in):  —Hospitality Management  —Human Resource Management  —International Business |
| Marketing:   * International Business * Logistics * Marketing Analytics * Sales |

From p. 189

**College of Engineering and Computer Science**

Professor Abhijit Bhattacharyya, Dean

*Associate Professor Yeonsang Hwang, Interim Associate Dean*

**PROGRAMS OF STUDY**

The College of Engineering and Computer Science offers undergraduate degree programs in a broad spectrum of areas, including a Bachelor of Arts degree in Computer Science; a Bachelor of Sci- ence degree in Computer Science; a Bachelor of Science in Civil Engineering degree; a Bachelor of Science in Electrical Engineering degree; a Bachelor of Science and Associate of Applied Science in Land Surveying and Geomatics; and a Bachelor of Science in Mechanical Engineering degree. Minors are also available in Computer Science, Land Surveying and Geomatics, and Engineering.

The College of Engineering and Computer Science grants a wide-range of master’s degree (M.E.M., M.S., M.S.E., M.S.Engr.) programs and multiple graduate certificates. For further information, see A- State’s Graduate Bulletin.

The college is comprised of one department and three programs: Department of Computer Science

Program for Civil Engineering Program for Electrical Engineering Program for Mechanical Engineering

Insert p. 210 before College of Liberal Arts and Communication

**Land Surveying and Geomatics Program**

The Land Surveying and Geomatics program teaches students how to identify, measure, quantify, map, and analyze specific details and locations on the earth’s surface. Students will learn applications of mathematics and basic sciences as they develop skills with modern software and hardware tools used in the surveying industry. Graphical presentation methodology and technical communication skills will be learned to allow students to share the information they obtain with professionals in other industries such as construction, engineering, real estate, city planning, subdivision development, conservation, and many others. Careers in land surveying and geomatics normally require a mix of both indoor and outdoor work, and expertise with modern surveying equipment will be developed through laboratory activities and related classroom responsibilities. Students will be eligible to proceed toward professional licensure as a Professional Surveyor upon completion of either the Bachelor of Science or Associate of Applied Science degree, and all students will be encouraged to take the Fundamentals of Surveying exam before completing their coursework.

Two degrees are offered by Arkansas State University in Land Surveying and Geomatics. The Bachelor of Science degree requires 120 credit hours of coursework and can be completed in four years. The B.S. degree provides students with a well-rounded educational experience and exposure to surveying fundamentals as well as business principles and general engineering technology concepts. The Associate of Applied Science degree requires 60 credit hours and can be completed in two years. The A.A.S. degree is more targeted to specific surveying fundamentals with a reduced general education component compared to the B.S. degree. Concerning Professional Surveying licensure, either degree completes the educational component required in Arkansas by A.C.A. §17-48-203. Students completing the A.A.S. would generally need to complete six years of work experience before becoming eligible for licensure, but B.S. students would have a work experience requirement of four years.

The Land Surveying and Geomatics program outcomes define the knowledge, skills, and behaviors that program graduates are expected to have by the time of graduation. Graduates of the B.S. Land Surveying and Geomatics program will have:

1. An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to formulate or design a system, process, procedure or program to meet desired needs.
3. An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions.
4. An ability to communicate effectively with a range of audiences.
5. An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts.
6. An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty.

Graduates of the A.A.S. Land Surveying and Geomatics program will have:

1. An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline.
2. An ability to conduct experiments or test theories, as well as to analyze and interpret data.
3. An ability to function on teams.
4. An understanding of professional and ethical responsibility.
5. An ability to communicate effectively.

**Major in Land Surveying and Geomatics**

**Bachelor of Science**

A complete 8-semester degree plan is available at <https://www.astate.edu/info/academics/degrees/>

|  |  |
| --- | --- |
| **University Requirements:** |  |
| See University General Requirements for Baccalaureate degrees (p. 42) |  |
| **First Year Making Connections Course** | **Sem. Hrs.** |
| UC 1013, Making Connections | **3** |
| **General Education Requirements:** | **Sem. Hrs.** |
| See General Education Curriculum for Baccalaureate degrees (p. 78)  **Students with this major must take the following:**  *MATH 1023, College Algebra or MATH course that requires MATH 1023 as a prerequisite*  *PHYS 2054, General Physics I*  *COMS 1203, Oral Communication (Required Departmental Gen. Ed. Option)* | **35** |
| **Major Requirements:**  Grade of “C” or better required for all Major Requirements | **Sem. Hrs.** |
| AGST 3503, Geospatial Data Applications | 3 |
| AGST 3543, Fundamentals of GIS/GPS | 3 |
| AGST 4511, Unmanned Aircraft Systems | 1 |
| AGST 4543, Advanced GIS for Agriculture and Natural Resources | 3 |
| AGST 4773, Remote Sensing | 3 |
| CE 2223, Plane Surveying | 3 |
| MATH 1033, Plane Trigonometry | 3 |
| REI 3413, Real Estate Practice | 3 |
| SUR 3003, Route and Construction Surveying | 3 |
| SUR 3013, Survey Plats and Deeds | 3 |
| SUR 3023, Photogrammetry | 3 |
| SUR 4003, Boundary Control and Legal Principles | 3 |
| SUR 4013, Law and Professionalism in Surveying | 3 |
| SUR 4023, Advanced Surveying | 3 |
| SUR 4033, Surveying Practicum | 3 |
| **Sub-total** | **43** |
| **Support Courses:**  One of the two following conditions must be met:   1. Grade of “C” or better required for all Support Courses; **OR** 2. 2.5 (or greater) grade point average in the Support Courses listed. | **Sem. Hrs.** |
| CE 2202, Civil Engineering Presentations | 2 |
| CS 1013, Introduction to Computers **OR**  CIT 1503, Microcomputer Applications | 3 |
| ENG 3043, Technical Writing | 3 |
| MGMT 3123, Principles of Management | 3 |
| MGMT 3183, Entrepreneurship | 3 |
| REI 4413, Real Estate Law | 3 |
| TECH 3413, AutoCAD Inventor | 3 |
| TECH 3433, AutoCAD 3D Modeling | 3 |
| TECH 3773, Statistics **OR**  STAT 3233, Applied Statistics I | 3 |
| TECH 3863, Industrial Safety | 3 |
| **Sub-total** | **29** |
| **Electives:** | **Sem. Hrs.** |
| Electives | **10** |
| **Total Required Hours:** | **120** |

**LETTER OF NOTIFICATION – 11**

**RECONFIGURATION OF EXISTING DEGREE PROGRAMS**

**(Consolidation or Separation of Degrees to Create New Degree)**

\*Please include the documents to be submitted found throughout this LON at the end of the form.

1. Institution submitting request: Arkansas State University
2. Contact person/title: Jason Stewart, Director of Civil Engineering
3. Title(s) of degree programs to be consolidated/reconfigured:

B.S. Civil Engineering, B.S. Technology, B.S. Agriculture, B.S. (Business Management)

1. Current CIP Code(s)/Current Degree Code(s): Enter text...
2. Proposed title of consolidated/reconfigured program: B.S. Land Surveying and Geomatics
3. Proposed CIP Code for new program: 15.1102
4. Proposed Effective Date: Fall 2020
5. Reason for proposed program consolidation/reconfiguration:

*(Indicate student demand (projected enrollment) for the proposed program and document that the program meets employer needs)*

The B.S. Land Surveying and Geomatics program is anticipated to have 8-10 students enrolled in the first year. Subsequent years should see, at a minimum, equal new enrollment. Survey results of professional surveyors in the state of Arkansas indicate a minimum demand of 80 surveyors in the next 5 years, and the advisory council for the BSCE program has also requested that this new degree be implemented to serve the civil engineering professional community. Geographically, there is a void in NE Arkansas for surveying education which the program would fill. Existing programs serve regionally in NW and SE Arkansas. Arkansas law (A.C.A. §17-48-203, effective January 1, 2017) now requires a degree for a person to ultimately become a licensed surveyor in the state, and this degree would fulfill those specific degree requirements.

1. Provide current and proposed curriculum outline by semester.

*For undergraduate programs, please also fill out 8-semester plan at end of document.*

*Indicate total semester credit hours required for the proposed program. Underline new courses and provide new course descriptions. (If existing courses have been modified to create new courses, provide the course name/description for the current/existing courses and indicate the related new/modified courses.) Identify required general education core courses with an asterisk.*

1. Provide program budget. Indicate amount of funds available for reallocation.

*See end of document.*

1. Provide current and proposed organizational chart. *See end of document.*
2. Institutional curriculum committee review/approval date: Enter text...
3. Are the existing degrees offered off-campus or via distance delivery? No.
4. Will the proposed degree be offered on-campus, off-campus, or via distance delivery?

On-campus and distance delivery

1. Identify mode of distance delivery or the off-campus location for the proposed program.

Online (live viewing and via archiving and web-based delivery)

1. Provide documentation that proposed program has received full approval by licensure/certification entity, if required.

*(A program offered for teacher/education administrator licensure must be reviewed/approved by the Arkansas Department of Education prior to consideration by the Coordinating Board; therefore, the Education Protocol Form also must be submitted to ADHE along with the Letter of Notification).*

Not required.

1. Provide copy of e-mail notification to other institutions in the area of the proposed program and their responses; include your reply to the institutional responses. *See end of document.*
2. List institutions offering similar program and identify the institutions used as a model to develop the proposed program.

University of Arkansas at Monticello offers a similar program, and it’s the only other program in the state with a similar BS degree. Their program was utilized somewhat as a model for the proposed program.

1. Provide scheduled program review date (within 10 years of program implementation).

Fall 2029

1. Provide additional program information if requested by ADHE staff.

Enter text...

President/Chancellor Approval Date: Click here to enter a date.

Board of Trustees Notification Date: Click here to enter a date.

Chief Academic officer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: Enter date.

Name (printed): Click here to enter text.

**8-Semester Plan**

(**referenced in #9** - **Undergraduate Proposals Only)**

*Instructions: Please identify new courses in italics*.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Arkansas State University-Jonesboro**  **Degree: Bachelor of Science**  **Major: Land Surveying and Geomatics**  **Year: 2020/21** | | | | | | | | |
| Students requiring developmental course work based on low entrance exam scores (ACT, SAT, ASSET, COMPASS) may not be able to complete this program of study in eight (8) semesters. Developmental courses do not count toward total degree hours. **Students having completed college level courses prior to enrollment will be assisted by their advisor in making appropriate substitutions. In most cases, general education courses may be interchanged between semesters.** A minimum of 45 hours of upper division credit (3000-4000 level) is required for this degree. | | | | | | | | |
| **Year 1** | | | |  | **Year 1** | | | |
| **Fall Semester** | | | |  | **Spring Semester** | | | |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| CS 1013 | Introduction to Computers | 3 |  |  | ENG 1013 | Composition II | 3 | ✔ |
| ENG 1003 | Composition I | 3 | ✔ |  | MATH 1033 | Plane Trigonometry | 3 |  |
| MATH 1023 | College Algebra | 3 | ✔ |  | BIO or BIOL | Life Science Elective(s) | 4 | ✔ |
| UC 1013 | Making Connections | 3 |  |  |  | Social Science Elective | 3 | ✔ |
|  | Humanities Elective | 3 | ✔ |  |  | HIST 2763, HIST 2773, or POSC 2103 | 3 | ✔ |
| **Total Hours** |  | 15 |  |  | **Total Hours** |  | 16 |  |
| **Year 2** | | | |  | **Year 2** | | | |
| **Fall Semester** | | | |  | **Spring Semester** | | | |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| CE 2223 | Plane Surveying | 3 |  |  | AGST 3503 | Geospatial Data Applications | 3 |  |
| COMS 1203 | Oral Communication | 3 | ✔ |  | CE 2202 | Civil Engineering Presentations | 2 |  |
| PHYS 2054 | General Physics I | 4 | ✔ |  | ENG 3043 | Technical Writing | 3 |  |
|  | Social Science Elective | 3 | ✔ |  | MGMT 3123 | Principles of Management | 3 |  |
|  | Elective | 3 |  |  |  | Fine Arts Elective | 3 | ✔ |
|  |  |  |  |  |  |  |  |  |
| **Total Hours** |  | 16 |  |  | **Total Hours** |  | 14 |  |
| **Year 3** | | | |  | **Year 3** | | | |
| **Fall Semester** | | | |  | **Spring Semester** | | | |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| AGST 3543 | Fundamentals of GIS/GPS | 3 |  |  | AGST 4773 | Remote Sensing | 3 |  |
| REI 3413 | Real Estate Practice | 3 |  |  | REI 4413 | Real Estate Law | 3 |  |
| SUR 3003 | Route and Construction Surveying | 3 |  |  | SUR 3013 | Survey Plats and Deeds | 3 |  |
| SUR 3023 | Photogrammetry | 3 |  |  | SUR 4003 | Boundary Control and Legal Principles | 3 |  |
| TECH 3413 | AutoCAD Inventor | 3 |  |  | TECH 3433 | AutoCAD 3D Modeling | 3 |  |
| **Total Hours** |  | 15 |  |  | **Total Hours** |  | 15 |  |
| **Year 4** | | | |  | **Year 4** | | | |
| **Fall Semester** | | | |  | **Spring Semester** | | | |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| AGST 4511 | Unmanned Aircraft Systems | 1 |  |  | MGMT 3183 | Entrepreneurship | 3 |  |
| AGST 4543 | Advanced GIS for Agri. And Nat. Resources | 3 |  |  | SUR 4013 | Law and Professionalism in Surveying | 3 |  |
| SUR 4023 | Advanced Surveying | 3 |  |  | *SUR 4033* | *Surveying Practicum* | 3 |  |
| TECH 3773 | Statistics | 3 |  |  |  | Electives | 4 |  |
| TECH 3863 | Industrial Safety | 3 |  |  |  |  |  |  |
|  | Elective | 3 |  |  |  |  |  |  |
| **Total Hours** |  | 16 |  |  | **Total Hours** |  | 13 |  |
| **Total Jr/Sr Hours 61 Total Degree Hours 120** | | | | | | | | |  |  |  |  | **Total Hours** |  | 13 |  |
| **Graduation Requirements:** | | | | | | | | |
|  | | | | | | | | |

**Program Budget**

**(referenced in # 10)**

Provide program budget. Indicate amount of funds available for reallocation.

1 new faculty position $104,000 (Salary = $80,000, Benefits = $24,000)

Funding source: Engineering Instruction

**Organizational Chart**

**(referenced in # 11)**

Provide current and proposed organizational chart. Include where the proposed program will be housed (department/college).

**Current**: College of Engineering and Computer Science:

Provost College of Engineering and Civil Engineering Civil Engineering

Dr. Alan Utter Computer Science Program

Dean: Dr. Abhijit Bhattacharyya Director: Jason Stewart

**Proposed**: The Surveying major would be housed administratively within the Civil Engineering program and under the oversight of the Director of Civil Engineering. No changes would be made to the current organizational chart except to add the surveying faculty line to the Civil Engineering program.

Provost College of Engineering and Civil Engineering Civil Engineering,

Dr. Alan Utter Computer Science Program Land Surveying

Dean: Dr. Abhijit Bhattacharyya Director: Jason Stewart & Geomatics

**Written Notification to Other Institutions**

**(referenced in # 17)**

This should include a copy of written notification to other institutions in area of proposed program and responses

Enter text...

**Student Learning Outcomes**

Provide outcomes that students will accomplish during or at completion of this reconfigured degree. Fill out the following table to develop a continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

**University Outcomes**

Please indicate the university-level student learning outcomes for which this new program will contribute. Please complete the table by adding program level outcomes (PLO) to the first column, and indicating the alignment with the university learning outcomes (ULO). If you need more information about the ULOs, go to the [University Level Outcomes Website](http://www.astate.edu/a/assessment/student-learning-outcomes/files/ULOs%20for%20Website2.pdf).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ULO 1: Creative & Critical Thinking** | **ULO 2: Effective Communication** | **ULO 3: Civic & Social Responsibility** | **ULO 4: Globalization & Diversity** |
| **PLO 1** | **✓** |  |  |  |
| **PLO 2** | **✓** |  |  |  |
| **PLO 3** | **✓** |  |  |  |
| **PLO 4** |  | **✓** |  |  |
| **PLO 5** |  |  | **✓** |  |
| **PLO 6** | **✓** | **✓** |  |  |

***Note: Best practices suggest 4-7 outcomes per program; minors would have 1 to 4 outcomes.***

***B.S. Land Surveying and Geomatics outcomes based on ABET Applied and Natural Science programs (www.abet.org)***

|  |  |
| --- | --- |
| **Outcome 1** | An ability to identify, formulate, and solve broadly defined technical or scientific problems by applying knowledge of mathematics and science and/or technical topics to areas relevant to the discipline. |
| Assessment Procedure Criterion | Surveys of graduating seniors, program alumni, and graduates’ employers will be utilized for indirect measurement of outcome achievement levels. 90% of students will score 3.0 (out of 4) or higher on portfolio evaluations (graded work, exams, papers, etc.) performed by faculty teaching the course. |
| Which courses are responsible for this outcome? | SUR 4033 |
| Assessment  Timetable | Outcome will be assessed every 3 years (starting in 2021), data will be collected annually. |
| Who is responsible for assessing and reporting on the results? | The faculty member teaching the course(s) will be responsible for collecting the data and assessing it with the assessment instrument. Results will be reported to the surveying program director. An assessment committee to be established for the surveying program will be responsible for results analysis and action plan development and implementation. |

|  |  |
| --- | --- |
| **Outcome 2** | An ability to formulate or design a system, process, procedure or program to meet desired needs. |
| Assessment Procedure Criterion | Surveys of graduating seniors, program alumni, and graduates’ employers will be utilized for indirect measurement of outcome achievement levels. 90% of students will score 3.0 (out of 4) or higher on portfolio evaluations (graded work, exams, papers, etc.) performed by faculty teaching the course. |
| Which courses are responsible for this outcome? | SUR 4033 |
| Assessment  Timetable | Outcome will be assessed every 3 years (starting in 2021), data will be collected annually. |
| Who is responsible for assessing and reporting on the results? | The faculty member teaching the course(s) will be responsible for collecting the data and assessing it with the assessment instrument. Results will be reported to the surveying program director. An assessment committee to be established for the surveying program will be responsible for results analysis and action plan development and implementation. |

|  |  |
| --- | --- |
| **Outcome 3** | An ability to develop and conduct experiments or test hypotheses, analyze and interpret data and use scientific judgment to draw conclusions. |
| Assessment Procedure Criterion | Surveys of graduating seniors, program alumni, and graduates’ employers will be utilized for indirect measurement of outcome achievement levels. 90% of students will score 3.0 (out of 4) or higher on portfolio evaluations (graded work, exams, papers, etc.) performed by faculty teaching the course. |
| Which courses are responsible for this outcome? | SUR 4023 |
| Assessment  Timetable | Outcome will be assessed every 3 years (starting in 2022), data will be collected annually. |
| Who is responsible for assessing and reporting on the results? | The faculty member teaching the course(s) will be responsible for collecting the data and assessing it with the assessment instrument. Results will be reported to the surveying program director. An assessment committee to be established for the surveying program will be responsible for results analysis and action plan development and implementation. |

|  |  |
| --- | --- |
| **Outcome 4** | An ability to communicate effectively with a range of audiences. |
| Assessment Procedure Criterion | Surveys of graduating seniors, program alumni, and graduates’ employers will be utilized for indirect measurement of outcome achievement levels. 85% of students evaluated on oral and written communication skills by performance appraisal will score 3.0 (out of 4) or higher using the assessment instrument. |
| Which courses are responsible for this outcome? | SUR 4033 |
| Assessment  Timetable | Outcome will be assessed every 3 years (starting in 2022), data will be collected annually. |
| Who is responsible for assessing and reporting on the results? | The faculty member teaching the course(s) will be responsible for collecting the data and assessing it with the assessment instrument. Results will be reported to the surveying program director. An assessment committee to be established for the surveying program will be responsible for results analysis and action plan development and implementation. |

|  |  |
| --- | --- |
| **Outcome 5** | An ability to understand ethical and professional responsibilities and the impact of technical and/or scientific solutions in global, economic, environmental, and societal contexts. |
| Assessment Procedure Criterion | Surveys of graduating seniors, program alumni, and graduates’ employers will be utilized for indirect measurement of outcome achievement levels. 90% of students will score 3.0 (out of 4) or higher on portfolio evaluations (graded work, exams, papers, etc.) performed by faculty teaching the course. 100% of students in SUR 4013 Law and Professionalism in Surveying will score 70/100 or better on questions related to ethical and professional responsibilities and related topics to this outcome. |
| Which courses are responsible for this outcome? | SUR 4013 |
| Assessment  Timetable | Outcome will be assessed every 3 years (starting in 2023), data will be collected annually. |
| Who is responsible for assessing and reporting on the results? | The faculty member teaching the course(s) will be responsible for collecting the data and assessing it with the assessment instrument. Results will be reported to the surveying program director. An assessment committee to be established for the surveying program will be responsible for results analysis and action plan development and implementation. |

|  |  |
| --- | --- |
| **Outcome 6** | An ability to function effectively on teams that establish goals, plan tasks, meet deadlines, and analyze risk and uncertainty. |
| Assessment Procedure Criterion | Surveys of graduating seniors, program alumni, and graduates’ employers will be utilized for indirect measurement of outcome achievement levels. 90% of SUR students evaluated by behavioral observation in CE 2223 Plane Surveying score 3.0 (out of 4) or higher using the assessment instrument. |
| Which courses are responsible for this outcome? | CE 2223 |
| Assessment  Timetable | Outcome will be assessed every 3 years (starting in 2023), data will be collected annually. |
| Who is responsible for assessing and reporting on the results? | The faculty member teaching the course(s) will be responsible for collecting the data and assessing it with the assessment instrument. Results will be reported to the surveying program director. An assessment committee to be established for the surveying program will be responsible for results analysis and action plan development and implementation. |

*Please repeat as necessary.*