Curriculum and Articulation Committee Faculty Senate Report and Action Items

February 20, 2015

The Curriculum and Articulation Committee met on January 12, 2015 from 10:00 a.m. to 12:00 p.m. and February 9, 2015 from 10:00 a.m. to 11:20 a.m.

The committee approved and requests a Faculty Senate vote on following items:

Action Items:

	Description
1. B.A. in English	Degree program proposal: See attached documents
2. B.S. in Biological Sciences	Degree program proposal: See attached documents
3. CIT 130: Beginning Java	Course Addition: Catalog description: "Java is a general-purpose, object-oriented programming language best known for, but not limited to, creating applets to run on the Internet. This course will include applet creation, but the primary emphasis will be on general purpose object-oriented programming."
4. CIT 263: Project Management	Course Addition: Catalog Description: "The purpose of this course is to help students gain knowledge required to effectively plan, implement, and complete IT projects across the organization. Topics will include business practices, interpersonal skills and management process."
5. WELD 110, 210, 220	Course Revision: change from fixed to variable credit. WELD 110: 5.5 to .5 - 5.5 WELD 210: 5.5 to .5 to 5.5 WELD 220: 11 to .5 to 11 These changed from fixed to variable credit courses are intended to accommodate CTE college credit articulation agreements.
6. EDUC 323:	Course Revision: Title and catalog description change. Title changed from "Teaching and Learning Education" to "Curriculum Design for Family Engagement." Catalog description changed from: "Includes planning for learning-centered environments, preparing lesson plans, preparing a professional portfolio, and understanding the Nevada standards" to "Included planning for family engagement including families from diverse backgrounds in learning –centered environments, preparing lesson plans, preparing a professional portfolio, and understanding the Nevada Academic Core Standards." Change requested in order to meet NDE content requirements and meet state regulations.

ACADEMIC PROGRAM PROPOSAL FORM

DIRECTIONS: *Use this form when proposing a new major or primary field of study, new emphasis, or new degree program.*

DATE SUBMITTED: March 1, 2015

Date of AAC Approval:

INSTITUTION: Great Basin College

REQUEST TYPE:

- ☐ New Degree
- ☒ New Major or Primary Field of Study
- ☐ New Emphasis
- ☐ New Certificate of Achievement (AAC Approval only)

Date of Board Approval:

DEGREE (i.e. Bachelor of Science): **Bachelor of Arts**

MAJOR (i.e. Animal Science): **English**

EMPHASIS (i.e. Equine Studies):

CREDITS TO DEGREE: 120.5

PROPOSED SEMESTER OF IMPLEMENTATION: Fall 2015

Action requested:
Great Basin College (GBC) requests approval from the NSHE Board of Regents of a new Bachelor of Arts degree with a major in English. The degree is designed to transfer directly from completed Associate of Arts degrees. All but two courses of the proposed degree are already taught by qualified GBC faculty as part of its existing B.A. in Secondary Education, English endorsement.

A. Brief description and purpose of proposed program

The Bachelor of Arts in English will be a new program at Great Basin College designed to offer students with a completed Associate of Arts degree an opportunity to pursue a baccalaureate degree in English. Completion of an A.A. degree at any NSHE institution, including completion of lower-division program requirements, will allow students to enter the program at junior status, providing a direct pathway from an Associate's degree to a Bachelor's degree. This program will provide students with the vital skills and expertise in critical analysis, composition and literary studies required for a variety of careers and post-graduate degree programs.

In keeping with GBC's mission, the Bachelor of Arts in English will serve the educational needs of rural, place-bound students throughout Northern and Central Nevada. Students will be able to complete the upper-division English and General Education courses required for the degree online,

offering needed flexibility for rural students as well as non-traditional students with career and familial obligations that limit their access to degree programs at other institutions.

Furthermore, the program design will create efficiencies with pre-exisitng courses. The Bachelor of Arts in English will run parallel to the Secondary Education English Endorsement already offered at GBC. The addition of an English-specific program will allow GBC to provide a viable degree option for students interested in English-related fields beyond that of secondary-level education, as well as students hoping to pursue dual degrees and graduate degrees open to English majors.

B. Statement of degree or program objectives

Students graduating with a B.A. in English will demonstrate the ability to:

- Analyze literary texts using a variety of techniques and critical frameworks, as well as synthesize complex literary arguments and interpretations.
- Write and communicate effectively in diverse contexts and in a variety of academic, creative and professional genres.
- Explicate and utilize numerous theories and methodologies of reading and interpreting literary texts.
- Think critically and analytically to address complex problems, understand diverse viewpoints and understand various cultural and social perspectives.

C. Plan for assessment of degree or program objectives

- The assessment of course-specific learning outcomes will be mapped to program outcomes and evaluated accordingly.
- Prior to graduation, each student in the program will submit a cumulative portfolio of coursework the department will use for formalized program assessment conducted by full-time faculty members.
- The department will track the academic and workplace achievements of program graduates.
- Intermittent surveys of enrolled students and program alumni will provide information and feedback used for program and course development.
- The program's curriculum and goals will be reviewed annually by full-time faculty members based on studies of best practices and current trends in B.A. programs in Nevada and nationwide.
- Each Upper-Division English course will be assessed using the Quality Matters online criteria in order to ensure effective pedagogy and educational content delivery.

D. Plan for assessment of student learning outcomes and the use of this data for program improvement

In addition to the evaluation of cumulative portfolios submitted prior to graduation, individual courses will evaluate student mastery of program-aligned learning outcomes in methods appropriate for course content and goals. These measures will inform course, curriculum and faculty development efforts and will also support program assessment efforts. Methods of evaluation may include:

- Term and Mid-term Papers
- Creative Writing Projects
- Collaborative Writing Projects
- Response Papers
- Discussion Board Assignments
- Essay Examinations and Tests

- Low-stakes Writing Assignments conducted inside or outside class
- Portfolio Evaluations

Student course evaluations will be completed in each course, and data generated will inform course improvements, pedagogical training and program development. Surveys of current students and alumni will provide similar data for course and program development.

E. Contribution and relationship of program objectives to

i. NSHE Master Plan

The proposed program aligns clearly with the last ***NSHE Master Plan*** produced in 2007 and as listed below. GBC specifically identified this program in its ***2015 – 2019 Planning Report: Institutional Academic, Research, and Student Services Plans***, approved by the Board of Regents on December 5, 2014.

This program contributes to the following specific goals of the ***NSHE Master Plan*** (2007):

- Student-Focused System: The higher education system in Nevada will create a welcoming, respectful and friendly environment where all students have the opportunity to participate and succeed at every level of higher education.
    - Increase the percentage of Nevada's general population who participate in some form of higher education, whether through coursework, workforce training, certificate programs, lifelong learning, or degree programs.
    - Strive to continually increase the percentage of students that express a high level of satisfaction with teaching, advising, and overall educational experiences at NSHE institutions.
        - ❖ Nationally, rural populations are less likely to attend college than urban populations. Factors include a lower value on education, remote location, social adjustment in moving to larger population centers, and family and employment circumstances making them place-bound. GBC is uniquely situated to address the circumstances and needs of this population of students. Addressing the needs of these students is GBC's mission. GBC has contact and support services for these students that cannot be addressed as effectively as other institutions of higher education.

- Reputation for Excellence: Nevada's institutions of higher education will increase their national, regional, and statewide reputation based on targeted, outstanding, innovative programs and other accomplishments.
    - Continue to develop and maintain programs, centers, and institutes that elicit national, regional, or statewide recognition for excellence.
    - Contribute to Nevada's quality of life and the efficiency and productivity of the state's enterprises through public service rendered by Nevada's faculty, staff, and students.
        - ❖ GBC has received commendations from the Northwest Commission on Colleges and Universities for its dedication and excellent service to rural Nevada. GBC has a highly innovative, technologically balanced approach to rural education that links the service area through combinations of online, interactive video, and live interactions with students. GBC is uniquely qualified to deliver programs in this setting.

- Quality Education: Nevada's system of higher education will provide consistently excellent learning experiences for its students through instruction, research, and service.
    - Develop and implement an assessment plan and effective measures of student learning outcomes at each institution and for each academic program. Assessment plans for educational programs will be congruent with the differentiated missions of the institutions. Each plan will be required to define student learning outcomes, assess student performance on those outcomes, and use results to improve teaching and learning.
    - Develop effective measures of institutional performance, collect data on the institutional indicators, and demonstrate that the results are used in the planning and evaluation process. These indicators are to include the regular evaluation of programs and justification for program continuation.
    - Increase the number of rich learning experiences available to students through creative performance, scholarly and research collaboration with faculty, and through community service learning.
        - ❖ GBC closely links its programs and students through its published program and supporting course outcomes, assessed regularly. The availability of an English program to the residents of rural Nevada will enrich their opportunities to further their education in this discipline.

- A Prosperous Economy: Through instruction, research, and service, higher education in Nevada will be an essential element in developing and sustaining a strong, dynamic, knowledge-based economy for Nevada.
    - Develop and increase responsive educational programs that focus on state needs and critical shortages in identified fields.
    - Increase the proportion of workers and the number of graduates in high-skill fields who come from Nevada's higher education institutions rather than from out of state.
    - Increase institutional collaborations with the private sector and target significant research resources to achieve specific economic development objectives.
    - Increase and focus workforce development to meet community needs in those sectors with the highest potential for growth.
        - ❖ As economies expand and diversify, analytics and communications are valuable skills often needed. Graduates with this degree will have the ability to analyze, organize and communicate ideas, serving within a wide range of workforce settings. These skills are required across all economic sectors.

- Building Quality of Life: Higher education in Nevada will be instrumental in advancing society's objectives and enriching the lives of Nevada's citizens.
    - Increase public service and cultural opportunities that position higher education institutions as intellectual, cultural, and artistic centers and as the "marketplace for ideas."
    - Ensure that all students have an opportunity to experience some form of internship, cooperative education, or community service in their educational programs.
        - ❖ This program addresses the general availability of a range of college degrees to the population of rural Nevada for whom remote location is an issue. The program addresses English as both a form of communication and as a Humanity.

- Opportunity and Accessible Education for All: Nevada's system of higher education will increase the overall participation and success of Nevadans enrolling at all levels of higher education and in all ethnic groups, and will address the unique educational needs of a highly diverse and non-traditional population.
    - Raise the percentage of Nevada's high school graduates who continue into postsecondary education within the NSHE.
    - Increase programs and courses designed to meet the needs of working adults.
    - Expand the use of shared, new, and existing facilities on weekdays, evenings, weekends, and summers for the most cost-effective delivery of education.
        - ❖ GBC increases accessibility to students throughout a service area larger than most states. The isolation of smaller communities outside of major metropolitan areas makes them not readily supported by the current programs of Nevada's Universities and State College. GBC already has in place existing infrastructure to provide this program to its service area. Of particular importance is the efficiency of providing this degree program; all but two of the courses in the proposed program are already delivered by GBC as part of its existing English endorsement in the B.A. in Secondary Education program. This program will add enrollment to existing courses that are already being delivered, meaning very little new cost to provide this opportunity. In addition, should students with A.A. degrees from the other Nevada community colleges wish to transfer into the GBC program, the lower division general education requirements completed with these degrees will be accepted as complete for the GBC degree.

In addition to the NSHE Master Plan, this program supports the NSHE plan, ***The State & the System: NSHE Plan for Nevada's Colleges and Universities*** **(2010)**:

NSHE will pursue such partnerships at every level within institution where appropriate to build student opportunity, internships, and employment, synergies for quality operations, and potential cost savings. Likewise, better pathways for technology transfer to assist business will be explored.

This program will provide abundant opportunities for students who do not currently have a pathway into a Bachelor's degree in English. The program's availability online and sharing an already established curriculum in the Secondary Education program provides cost-savings, providing this program with essentially no new cost. A.A. degrees from other community colleges will be accepted for students wishing to pursue this degree with GBC.

The program aligns with the proposals in the E-Learning report (***E-Learning and Higher Education's Iron Triangle: Opportunity, Affordability, and Student Success***, 2/11/2013). Specific recommendations addressed by this program include the following:

- Recommendation 3: Invest in Distance Education and Related Policy Review. By offering the proposed program online it will be available to students from throughout the GBC service area. Students desiring an online English program may participate in the GBC program from anywhere in the state. Current GBC infrastructure, policy, and scheduling are in place for this program to exist.
- Recommendation 6: Invest in a Shared Student Learning Portal and Student e-Portfolio.

All four Nevada community colleges share the Canvas LMS, and Canvas provides options for creating Student Portfolios, thus allowing an early opportunity for implementing this recommendation.

- Recommendation 11: Invest in Shared Marketing.
  Though the target population for the program is the GBC service area, the proposed program will provide an online Bachelor's path from A.A. degrees currently offered by the four Nevada community colleges.

ii. Institutional mission

The Great Basin College Mission Statement:

Great Basin College enriches people's lives by providing student-centered, post-secondary education to rural Nevada. Educational, cultural, and related economic needs of the multicounty service area are met through programs of university transfer, applied science and technology, business and industry partnerships, developmental education, community service, and student support services in conjunction with certificates and associate and select baccalaureate degrees.

This program reflects the following components of the GBC Mission Statement:

- The program is specifically oriented towards students in rural Nevada and their success.
- Live student support services are available at the GBC main campus in Elko, at its four centers (Battle Mountain, Ely, Pahrump, and Winnemucca), and several of its smaller sites.
- All courses in this select baccalaureate program will be completely available online, making it available throughout rural Nevada.
- The program addresses the educational, cultural, and economic needs of rural Nevada.
  - There are currently no programs for a B.A. degree in English available to students outside of the metropolitan areas of Nevada.
  - The degree provides not only the opportunity for an education within the discipline of English, but also incorporates a strong base for cultural awareness enhancement.
  - Many jobs in business and industry do not require technical skills, but communications and problem solving skills. The program is highly invested in research and critical analysis required in many jobs. The program will advance a productive workforce that knows how to learn and to work effectively with others.
- The program will collaborate with local and state-wide businesses to identify needs for students with the ability to effectively communicate, research, and think critically. These activities are continuously assessed to adapt to the rapidly changing needs of employers and to assist in the recruitment and economic development efforts of the state.

iii. Campus strategic plan and/or academic master plan

This program was specifically identified within the 2015-2019 update of its Academic Master Plan, approved by the NSHE Board of Regents on December 5, 2014. This is within the NSHE *2015 – 2019 Planning Report: Institutional Academic, Research, and Student Service Plans*. This plan is a subset of the approved GBC Strategic Plan.

The GBC Strategic Plan was approved by the NSHE Board of Regents at its June, 2014 meeting. The approved plan included the GBC vision statement:

While maintaining the strength of its community college mission, Great Basin College will remain an economically sustainable institution through growth, by increasing

enrollment, expanding its service area, offering more laddered Bachelor's degrees and becoming nationally known for its innovative distance delivery systems, all leading it to be recognized as an indispensable and evolving provider of post-secondary education in rural Nevada.

iv. Department and college plan

In keeping with The GBC Department of Arts and Letters plan, the B.A. in English will supplement the existing degree in secondary English and target students with existing A.A. degrees, either granted by GBC, other NSHE institutions, or other accredited institutions, allowing them to continue their education within the NSHE system at the baccalaureate level. All coursework will be offered online in order to serve rural, place-bound and non-traditional students, a key aspect of the department's plan to offer educational opportunities to students lacking access to an undergraduate education.

v. Other programs in the institution

From the outset, the program will benefit the Secondary Education program by allowing the GBC Arts and Letters Department to offer a wider selection of course offerings in English with greater frequency and enrollment numbers, creating robust classrooms to facilitate student learning. Students pursuing a degree in Secondary Education will also have the opportunity to pursue a dual degree in Secondary Education and English, increasing their employability, as will students pursuing degrees in Applied Sciences who may benefit from the soft skills focused on in English programs. In addition, the curriculum requires a number of upper-level general education courses in Integrative Studies, which are offered by faculty from various departments across the campus. The addition of more elective choices, as the program develops, will provide student enrollment for courses offered in other departments.

vi. Other related programs in the System

Any student earning an A.A. or a degree that fulfills the program entrance requirements at an NSHE or other accredited institution will be eligible to transfer into the B.A. in English program. Students earning a B.A. may qualify to apply for graduate programs at other institutions thorughout the NSHE system. The B.A. in English is currently offered at NSC, UNLV and UNR; however, these programs are not fully online and are, therefore, inaccessible to many rural, place-bound and non-traditional students

vii Articulation issues (within the institution)

There are no adverse articulation issues within the college. With proper advising and correct selection of lower division English courses, Associate of Arts degrees will articulate directly to this B.A. in English program with no loss of credit. This is also true of A.A. degrees from the other Nevada community colleges. All courses are aligned with NSHE Common Course Numbering.

F. Evaluation of need for the program

i. Intrinsic academic value of program within the discipline

The Bachelor of Arts in English is one of the most versatile degrees offered in undergraduate institutions, and one of the most employable degrees in the wider discipline of Humanities. Students who pursue a B.A. in English develop essential skills in critical analysis and communication, as well as cultural awarenesses that allow them to successfully operate within the workplace and society. A fluency with critical analysis methods and perspectives allows students to evalute complex problems from multiple perspectives and address them with innovative solutions. Communication skills allow students to express themselves and connect with audiences through spoken and written communications. Awarenesses of various cultures and cultural conventions prepares students to work and live in an

increasingly diverse nation as well as instills the cultural flexibility necessary for international employment and living.

The Bachelor of Arts in English also serves as a gateway to a number of post-graduate educational experiences such as Master's programs in Literature, Technical Communication, Creative Writing, Digital Humanities, Journalism, Communications and Library Science. The Bachelor of Arts in English is also a common entry degree for prospective students of law and medicine.

ii. Evidence of existing or projected local, state, regional, national and/or international need for program

A 2013 report funded and published by the Association of American Colleges and Universities, and conducted by Hart Research Associates, entitled "It Takes More Than a Major: Employer Priorities for College Learning and Student Success," surveyed a group of employers who frequently hire among the pool of recent college graduates. The employers surveyed represented both private sector and non-profit organizations, and held executive positions within these organizations. Overall, employers indicated their hiring priorities overwhelmingly included the communicative and analytical skills provided by degrees in English. These needs, in some cases, ranked higher in importance than field-specific content knowledge.

Of those surveyed, 93% agreed, "a candidate's demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than their undergraduate major" (Hart, pg.1). These skills are directly addressed by English undergraduate programs, especially that of communication, which, according to a Metlife Survey, 97% of business executives ranked as highly important in new hires (qtd. in Martinuzzi). Additionally, according to Hart's research, more than three out of four employers want to see colleges focusing more on the following five learning outcomes:

1. Critical Thinking.
2. Complex problem-solving.
3. Written communication.
4. Oral communication.
5. Knowledge application in real-world settings.

These outcomes are addressed specifically in various English courses, and a B.A. in English will provide students with the needed soft skills employers see as vital to the continued function of their organization (Hart, pg.1). Additionally, business author and researcher Bruna Martinuzzi indicates that, "The trend of employers looking for both field-specific skills and broad skills indicates that employees who combine a liberal arts major – especially an English major – with another major degree…will have a competitive advantage." This emphasis on the skills provided by an English degree, especially at management and executive levels, suggests these skills are not only of value to undergraduates, but working and non-traditional students who will likely need the flexibility that an online program will provide, especially those students employed in rural areas throughout the GBC service area.

iii. If this or a similar program already exists within the System, what is the justification for this addition

Currently, NSC, UNLV and UNR all offer a B.A. in English with various concentrations, but required classes for these programs are offered in traditional format, limiting access for non-traditional, rural and place-bound students. GBC's B.A. in English will provide these students an opportunity to complete a degree entirely online, a format more accommodating of geographic and scheduling restrictions.

iv. Evidence of employment opportunities for graduates (state and national)

According to the Bureau of Labor and Statistics, national employment projections for the next decade suggest that education, public relations, community and social services, and business occupations, all fields pursued by English majors, will experience above average growth, creating ample opportunities for those who hold English degrees ("Employment Projections by Major Occupational Group"). In particular, the technical writing field, often pursued by those with English degrees, will experience above average growth at 15% ("Technical Writers").

At the state level, Nevada's efforts to create economic growth in the areas of tourism, health care, information technology, clean energy, mining, manufacturing, logistics and aerospace (Lang, Brown) will create the need for employees who are capable communicators, writers, critical thinkers, researchers and who possess the intercultural awareness necessary to work in an increasingly globalized workforce. As explained by Martinuzzi, English majors bring much needed skills to a diverse workplace including communication skills, writing skills, research skills, critical thinking and empathy, which are all skills heavily desired by employers in the technical and global sectors including Microsoft, Dell, Raytheon, Symantec, Pfizer and IDEO. Additionally, students who pursue English degrees often go into the field of medicine after pursing additonal graduate study, an identified area of growth in Nevada's plans for a new economy.

v. Student clientele to be served (Explain how the student clientele is identified)

GBC will identify students for this program through several methods of recruitment and marketing as currently employed to support the B.A. degrees offered at the institution. Students and alumni of existing A.A. programs at Great Basin College, Truckee Meadows Community College,Western Nevada Community College and the College of Southern Nevada will serve as a high percentage of the clientele, as GBC intends to develop articulation agreements with these institutions to facilitate entry into the program.

In addition, undergraduates enrolled in the GBC Secondary Education program with an English emphasis will serve as a potential client base, as these students could pursue the B.A. in English as a dual major, increasing their marketability upon graduation. Teachers currently working in the K-12 system may also provide another source of clientele, as they could pursue an academic B.A. for continuing education credit. Additionally, students seeking degrees in applied science fields would have the opportunity to dual major, which, as discussed earlier in the proposal, could give them a competitive advantage in their post-collegiate career.

An in-house survey of students enrolled in English courses at GBC, conducted in Fall 2014 by the Arts and Letters Department, indicated reasonable interest among students currently enrolled, with sixteen students out of 1089 surveyed indicating they would be interested in enrolling in the program and 34 indicating they would consider enrollment.

G. Detailed curriculum proposal

i. Representative course of study by year (options, courses to be used with/without modification; new courses to be developed)

Representative course of study by year (options, courses to be used with/without modification; new courses to be developed)

<u>Representative Courses of Study by Year</u>

Fall 1st Semester

ENG 303	Introduction to Literary Theory & Criticism	3 Credits
ENG 449 A	British Literature I	3 Credits
ENG 451 A	American Literature I	3 Credits
INT 301	Integrative Research Methodology	3 Credits
English Elective		3 Credits
Total		15 Credits

Spring 2nd Semester

ENG 327	Composition III	3 Credits
ENG 449 B	British Literature II	3 Credits
ENG 451 B	American Literature II	3 Credits
English Elective		3 Credits
English Elective		3 Credits
Total		15 Credits

Fall 3rd Semester

ENG 329	Language Study	3 Credits
ENG 411 B	Principles of Modern Grammar	3 Credits
ENG 416 C	Special Problems in English	3 Credits
ENG 433 A	Shakespeare: Tragedies and Histories	3 Credits
English Elective		3 Credits
Total		15 Credits

Spring 4th Semester

ENG 475 B	Literary Nonfiction	3 Credits
ENG 497 A	Topics in Multicultural Literature	3 Credits
INT 369	Integrative Science Seminar	3 Credits
English Elective		3 Credits
English Elective		3 Credits
Total		15 Credits

Total upper division for B.A. in English 60 Credits

ii. Program entrance requirements

To be admitted to the program, students will need to possess an A.A. or A.S. degree of 60 credits (with the equivalent of ENG 102) from a regionally accredited institution, and including at least nine-hours of lower division English courses (or their transfer equivalents) from the following list:

ENG 203	Introduction to Literary Studies	3 Credits
ENG 205	Introduction to Creative Writing	3 Credits
ENG 223	Themes of Literature	3 Credits
ENG 261	Introduction to Poetry	3 Credits

iii. Program completion requirements (credit hours, grade point average; subject matter distribution, preprogram requirements)

To complete the program, students will need to maintain a 2.5 Grade Point Average and a cumulative "C" average in the following courses:

I. General Education:	12-15 Credits
COM 101 Oral Communication	3 Credits
JOUR 102 News Reporting and Writing	3 Credits
INT 301 Integrative Research Methodology	3 Credits
INT 359 Integrative Math Seminar or	
INT 369 Integrative Science Seminar	3 Credits
U.S. and Nevada Constitution	
(If not completed prior to transfer or as part of A.A.).	1-3 Credits
Total Credits for Section I	12-15 Credits

II. English Program Core Requirements:	15 Credits
ENG 327 Composition III	3 Credits
ENG 303 Introduction to Literary Theory & Criticism	3 Credits
ENG 449 A British Literature I	3 Credits
ENG 449 B British Literature II	3 Credits
ENG 451 A American Literature I	3 Credits
ENG 451 B American Literature II	3 Credits
ENG 497 A Topics in Multicultural Literature (Capstone Course)	3 Credits
Total Credits for Section II	21 Credits

III. English Electives: 24-27 Credits	
ENG 205 Introduction to Creative Writing	3 Credits
ENG 261 Introduction to Poetry	3 Credits
ENG 329 Language Study	3 Credits
ENG 333 Professional Communications	3 Credits
ENG 402A Advanced Creative Writing*	3 Credits
ENG 425A Themes of Literature	3 Credits
ENG 411B Principles of Modern Grammar	3 Credits
ENG 416C Special Problems in English	3 Credits
ENG 433A Shakespeare: Tragedies and Histories	3 Credits
ENG 475B Literary Nonfiction *	3 Credits
Total Credits for Section III	24-27 Credits

Minimum Total Credits: 60

All courses with (*) will be developed by GBC within the NSHE Common Course Numbering System

iv. Accreditation consideration (organization (if any) which accredits program, requirements for accreditation, plan for attaining accreditation - include costs and time frame)

Once the program is reviewed and approved by the NSHE Board of Regents, it will be submitted to the Northwest Commission on Colleges and Universities for approval. This is the only accreditation required.

v. Evidence of approval by appropriate committees of the institution

The program was approved by the GBC Curriculum and Articulation Committee and then by the GBC Faculty Senate. Minutes are attached.

H. Readiness to begin program

i. Faculty strengths (specializations, teaching, research, and creative accomplishments)

The English faculty in GBC's Arts and Letters Department hold a combination of Master and Doctoral Degrees with specializations in Literature, Composition and Rhetoric, Creative Writing and Comparative Literature from accredited universities across the nation. Faculty members have more than fifty cumulative years of teaching experience at the undergraduate level in various insitutions including four-year colleges and research universities and have taught a variety of courses appropriate to an undergraduate English program. Furthermore, the faculty have a number of publications including scholarly articles, non-fiction pieces, short stories and a novel and hold various awards for their teaching, creative and scholarly work. It is the department's policy that all upper-division courses are taught by full-time faculty, ensuring students work with well-trained and experienced classroom instructors.

ii. Contribution of new program to department's existing programs (both graduate and undergraduate) and contribution to existing programs throughout the college or university

The program will operate co-efficiently with the pre-existing B.A. in Secondary Education with an English Emphasis offered at GBC, making use of existing courses, facilities and faculty. The B.A. in English will also make use of Integrative Studies courses already offered for other baccalaureate degrees at the college, increasing enrollments in such courses, which are offered by faculty from various programs and departments.

iii. Completed prior planning for the development of the program (recent hires, plans for future hires, securing of space, curricular changes, and reallocation of faculty lines)

The GBC Arts and Letters Department currently includes five full-time English faculty, and all courses required for the degree program are currently staffed and on the long-term schedule, requiring no new staffing allocations. As the program will be offered online, its operation will require no additional space allocations and the technological infrastructure exists and is already funded. GBC has already entered into a number of agreements with other institutions of higher education to increase the library holdings available to GBC students, which will prove beneficial to those enrolled in the B.A. in English program. Department faculty are currently in the process of making necessary curriculum changes to bring our course offerings in line with NSHE Common Course Numbering and standards.

iv. Recommendations from prior program review and/or accreditation review teams

Not applicable.

v. Organizational arrangements that must be made within the institution to accommodate the program

As a new Bachelor degree program, the B.A. in English will require a program supervisor/administrator appointed from current English faculty.

I. Resource Analysis

i. Proposed source of funds (enrollment-generated state funds, reallocation of existing funds, grants, other state funds)

As the program makes use of currently offered courses and currently employed faculty, the program requires no additional funds at inception. Future growth, dependent on enrollment,

will be funded through enrollment-generated state funds in proportion to course enrollment increases.

ii. Each new program approved must be reviewed for adequate full-time equivalent (FTE) to support the program in the fifth year. Indicate if enrollments represent 1) students formally admitted to the program, 2) declared majors in the program, or 3) course enrollments in the program.

Students will be identified as those who have declared the program as their major.

a. (1) Full-time equivalent (FTE) enrollment in the Fall semester of the first, third, and fifth year.

1st Fall semester _2___

3rd Fall semester _8___

5th Fall semester _12__

(2) Explain the methodology/assumptions used in determining projected FTE figures.
Projections of FTE are based on estimated headcount enrollment discussed in b.(2) below. FTE is estimated to be about two thirds of headcount based on previous experience with GBC programs. Headcount and FTE are anticipated to reach projected enrollment levels in about the fifth year of the program.

b. (1) Unduplicated headcount in the Fall semester of the first, third, and fifth year.

1st Fall semester _3_

3rd Fall semester _12___

5th Fall semester _16___

(2) Explain the methodology/assumptions used in determining projected headcount figures.
The FTE projections result from an online survey of students enrolled in all English courses conducted by the Arts and Letters Department in the fall of 2014. Out of 1089 surveyed students, 79 responded. Out of that pool of 79 responses, 16 students (20.25%) said they would enroll in a B.A. in English if GBC offered the degree. Thirty-four students (43.04%) said they would consider enrolling in the degree program and 29 (36.71%) indicated they had no interest in the degree. Based on these results, and factoring in the discrepancy between a survey response and actual enrollment, the numbers above represent conservative and reasonable enrollment expectations of probable enrollment by the fifth year of the program. We assume the numbers above will reflect declared majors in the program and course enrollments.

Enrollment in the first year of the program is expected to be low because of the timing of the approval process. With approval in June of 2015, there is little time for program recruitment before its start date in August of 2015.

iii. Budget Projections – Complete and attach the Five-Year Budget Projection Table.
Attached.

J. Facilities and equipment required

i. Existing facilities: type of space required, number of assignable square feet, space utilization assumptions, special requirements, modifications, effect on present programs
All existing facilities required for this program exist with no modifications needed.

ii. Additional facilities required: number of assignable square feet, description of space required, special requirements, time sequence assumed for securing required space
As this program will be offered fully online, implementation will require no additional space at this current time.

iii. Existing and additional equipment required
Upon approval, the program will make use of existing hardware and software with no predicted additional equipment needs in the immediate future.

K. Student services required – Plans to provide student services, including advisement, to accommodate the program, including its implications for services to the rest of the student body
Current faculty and the appointed program supervisor will provide advisement for students in the program as well as to A.A. students with intentions to enter the program upon their completion of the required entrance degree. The program supervisor will conduct degree application review. Recruitment efforts will be shared between the Recruitment Department, the B.A. in English Program Supervisor and the full-time English faculty.

L. Consultant Reports – If a consultant was hired to assist in the development of the program, please complete subsections A through C. A copy of the consultant's final report must be on record at the requesting institution.
Not applicable.

i Names, qualifications and affiliations of consultant(s) used
n/a

ii. Consultant's summary comments and recommendations
n/a

iii. Summary of proposer's response to consultants
n/a

M. Articulation Agreements

i Articulation agreements were successfully completed with the following NSHE institutions. (Attach copies of agreements)
None have been completed pending approval of the program.

ii. Articulation agreements have not yet been established with the following NSHE institutions. (Indicate status)
Articulation agreements at College of Southern Nevada, Truckee Meadows Community College, and Western Nevada College have not yet been completed because the program has not yet been approved. However, approval of this program assures that graduates from A.A. programs with the appropriate lower division English courses will be automatically articulated directly into the GBC program. Once the program is approved, the formality of making articulation agreements will be completed.

iii. Articulation agreements are not applicable for the following institutions. (Indicate reasons)

Articulation agreements are not required with UNLV, UNR, or NSC because GBC does not expect to receive students transferring from those institutions. Certain individual courses will transfer between the institutions since NSHE Common Course Numbering practices are observed.

N. Summary Statement

This proposal to create a Bachelor of Arts in English at Great Basin College represents a serious effort to fulfill Great Basin's mission of providing educational opportunities to rural, place-bound, and non-traditional students as well as our dedication to increasing co-efficiencies in our course offerings and degree programs. By offering an entirely online degree, the program will be able to reach a clientele currently unserved within the NSHE system, as well as afford currently enrolled GBC students an opportunity to pursue dual degrees to better compete in an increasingly diverse and multi-faceted global workplace.

Our in-house research, as well as national and statewide studies of higher education and business, indicate a reasonable demand for this program. This will ensure its self-sufficiency and contribution to both the NSHE system and Great Basin College. Additionally, as the program will function co-efficiently with already existing programs within the institution, The Arts and Letters Department stands ready to begin the program with no additional expenditure of funds or staff. The facilities required to begin this degree program, as well as the trained faculty and staff members necessary to ensure its success, are currently in place and ready to begin work.

With great respect to our sister institutions, the NSHE system and The Board of Regents, we request your permission to implement the Bachelor of Arts in English degree program at Great Basin College. With your consent, we will be poised to reach new clientele in the state and expand the higher education opportunities offered to its dedicated citizens, helping them become vanguards in the workforce of Nevada's future.

Works Cited

Hart Research Associates. "It Takes More Than a Major: Employer Priorities for College Learning and Student Success." AACU, 10 Apr. 2013. PDF.

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Martinuzzi, Bruna. "Why English Majors are the Hot New Hires." *Small Business OPENForum*. American Express, 11 Jul. 2013. Web. 8 Dec. 2014.

US Bureau of Labor and Statistics. "Employment by Major Occupational Group." *Employment Projections*. USBLS, 19 Dec. 2013. Web. 8 Dec. 2014.

------. "Public Relations Specialist." *Occupational Outlook Handbook.* US Bureau of Labor and Statistics, 8 Jan. 2014. Web. 8 Dec. 2014.

-----. "Technical Writers." *Occupational Outlook Handbook.* US Bureau of Labor and Statistics, 8 Jan. 2014. Web. 8 Dec. 2014.

ACADEMIC PROGRAM PROPOSAL FORM

DIRECTIONS: *Use this form when proposing a new major or primary field of study, new emphasis, or new degree program.*

DATE SUBMITTED: March 1, 2015

Date of AAC Approval:

INSTITUTION: Great Basin College

Date of Board Approval:

REQUEST TYPE:

- ☒ New Degree
- ☒ New Major or Primary Field of Study
- ☐ New Emphasis
- ☐ New Certificate of Achievement (AAC Approval only)

DEGREE (i.e. Bachelor of Science): **Bachelor of Science**

MAJOR (i.e. Animal Science): **Biological Sciences**

EMPHASIS (i.e. Equine Studies):

CREDITS TO DEGREE: 120.5

PROPOSED SEMESTER OF IMPLEMENTATION: Fall 2015

Action requested:
Great Basin College (GBC) requests approval from the NSHE Board of Regents for a new Bachelor of Science degree in Biological Sciences. The degree is designed to transfer directly from completed Associate of Science or Associate of Arts degrees containing appropriate lower division program requirements. All but three courses of the proposed degree are already taught by qualified GBC faculty as part of its existing BA in Secondary Education, Biology endorsement, and BA in Integrative Studies, Resource Management emphasis.

A. Brief description and purpose of proposed program

The proposed Biological Sciences program will be a new major in a new degree (Bachelor of Science) at GBC. Completion of Associate of Science or Associate of Arts degrees at any regionally accredited institution of higher education, with appropriate lower division prerequisites, will guarantee admission into the Bachelor's degree program with junior status. Foundation courses within the Associate's degrees are prescribed in biology, chemistry and mathematics.

The upper division of the proposed program provides a generalist degree in biology. The courses are distributed between the four primary content areas in biology, including the molecular basis of life,

organismal biology (survey of organisms and function), genetics (including the molecular basis of gene expression), and ecology. Evolution by natural selection, the central theory of biology, is a central theme in all biology-related courses.

Completion of this program will provide graduates with opportunities for employment in biological sciences in a wide range of job types in land management, enviromental consulting, biological technician positions, laboratory technicians, and so forth. The Bachelor's degree will also function as a gateway into graduate school in biology-releated disciplies and professional programs including medical school, dental school, and other health-related programs.

There is essentially no new cost to offer the proposed program immediately. The program design builds on existing courses in existing GBC programs to create internal efficiencies. Required faculty, facilities, and equipment are in place. The BS in Biologal Sciences will run parallel to the Biological Science endorsement in the BA in Secondary Education already successfully offered at GBC. The addition of a Biology-specific program will allow GBC to provide a viable degree option for students interested in Biology-related fields beyond that of secondary-level education as well as a pathway to graduate or professional school. The program also has significant course overlap with the existing GBC BA in Integrative Studies with a Natural Resources empahsis.

B. Statement of degree or program objectives

Students will graduate with a BS in Biological Sciences with the following outcomes:

- Demonstrate the ability to communicate the nature of scientific knowledge and the scientific method and how they were developed.
- Demonstrate the association between biological structure and function.
- Demonstrate the relationship between molecular genetics and cell and organism function.
- Describe how organisms are genetically related, interact on a population level, have evolved, and are evolving.
- Integrate the complexity of the metabolism of cells and organisms.
- Analyze the complex interplay of how organisms and populations respond to and interact with each other and their environment.
- Demonstrate effective communication skills with regards to complex biological concepts, orally and in writing.

C. Plan for assessment of degree or program objectives

- The assessment of course-specific learning outcomes (objectives) will be mapped to program outcomes and evaluated accordingly.
- The Department will track the academic and workplace achievements of program graduates.
- Intermittent surveys of enrolled students and program alumni will provide information and feedback used for program and course development.
- The program's curriculum and goals will be reviewed annually by faculty members based on studies of best practices and current trends in BS programs in Nevada and nationwide.

D. Plan for assessment of student learning outcomes and the use of this data for program improvement

Individual courses will evaluate student mastery of program-aligned learning outcomes in methods appropriate for course content and goals. These measures will inform course, curriculum and faculty

development efforts and will also support program assessment efforts. Methods of evaluation may include:

- Examinations and tests
- Laboratory exercises, reports, and notebooks.
- Term and mid-term papers
- In-person presentations
- Discussion board assignments

Student course evaluations will be completed in each course, and the data generated will inform course improvements, pedagogical training and program development. Surveys of current students and alumni will provide similar data for course and program development.

E. Contribution and relationship of program objectives to

i. NSHE Master Plan

The proposed program aligns clearly with the last ***NSHE Master Plan*** produced in 2007 and as listed below. GBC specifically identified this program in its ***2015 – 2019 Planning Report: Institutional Academic, Research, and Student Services Plans***, approved by the Board of Regents on December 5, 2014.

This program contributes to the following specific goals of the ***NSHE Master Plan*** (2007):

- Student-Focused System: The higher education system in Nevada will create a welcoming, respectful and friendly environment where all students have the opportunity to participate and succeed at every level of higher education.
    - Increase the percentage of Nevada's general population who participate in some form of higher education, whether through coursework, workforce training, certificate programs, lifelong learning, or degree programs.
    - Strive to continually increase the percentage of students that express a high level of satisfaction with teaching, advising, and overall educational experiences at NSHE institutions.
        - ❖ Nationally, rural populations are less likely to attend college than urban populations. Factors include a lower value on education, remote location, social adjustment in moving to larger population centers, and family and employment circumstances making them place-bound. GBC is uniquely situated to address the circumstances and needs of this population of students in Nevada. Addressing the needs of these students is GBC's mission. GBC has contact and support services for these students that cannot be addressed as effectively at other institutions of higher education.

- Reputation for Excellence: Nevada's institutions of higher education will increase their national, regional, and statewide reputation based on targeted, outstanding, innovative programs and other accomplishments.
    - Continue to develop and maintain programs, centers, and institutes that elicit national, regional, or statewide recognition for excellence.
    - Contribute to Nevada's quality of life and the efficiency and productivity of the state's enterprises through public service rendered by Nevada's faculty, staff, and students.

- ❖ GBC has received commendations from the Northwest Commission on Colleges and Universities for its dedication and excellent service to rural Nevada. GBC has a highly innovative, technologically balanced approach to rural education that links the service area through combinations of online, interactive video, and live interactions with students. GBC is uniquely qualified to deliver programs in this setting. Providing access to this program is one step in developing healthcare professions in rural Nevada who are more likely to remain in rural Nevada where they are critically needed.

- Quality Education: Nevada's system of higher education will provide consistently excellent learning experiences for its students through instruction, research, and service.
  - Develop and implement an assessment plan and effective measures of student learning outcomes at each institution and for each academic program. Assessment plans for educational programs will be congruent with the differentiated missions of the institutions. Each plan will be required to define student learning outcomes, assess student performance on those outcomes, and use results to improve teaching and learning.
  - Develop effective measures of institutional performance, collect data on the institutional indicators, and demonstrate that the results are used in the planning and evaluation process. These indicators are to include the regular evaluation of programs and justification for program continuation.
  - Increase the number of rich learning experiences available to students through creative performance, scholarly and research collaboration with faculty, and through community service learning.
    - ❖ GBC closely links its programs and students through its published program and supporting course outcomes, assessed regularly. The availability of a Biological Sciences Bachelor's degree program to the residents of rural Nevada will enrich their opportunities to further their education in this discipline.

- A Prosperous Economy: Through instruction, research, and service, higher education in Nevada will be an essential element in developing and sustaining a strong, dynamic, knowledge-based economy for Nevada.
  - Develop and increase responsive educational programs that focus on state needs and critical shortages in identified fields.
  - Increase the proportion of workers and the number of graduates in high-skill fields who come from Nevada's higher education institutions rather than from out of state.
  - Increase institutional collaborations with the private sector and target significant research resources to achieve specific economic development objectives.
  - Increase and focus workforce development to meet community needs in those sectors with the highest potential for growth.
    - ❖ As a STEM discipline, graduates with the Biological Sciences degree may serve within many high-demand workforce fields. Within health care, certain graduates may seek admission to medical and related professional schools. Students from rural communities are more likely to return to their home community, where the need for doctors and other health care professionals is often critical. They may also find employment within a range of companies involved in research and production in support of the

overall health care system. Graduates will qualify to apply to graduate school with a wide range of biological interests. Additionally, graduates of Biological Sciences programs may find employment in a wide range of environment professions, ranging from industrial companies to governmental agencies to private consulting firms.

- Building Quality of Life: Higher education in Nevada will be instrumental in advancing society's objectives and enriching the lives of Nevada's citizens.
    - Increase public service and cultural opportunities that position higher education institutions as intellectual, cultural, and artistic centers and as the "marketplace for ideas."
    - Ensure that all students have an opportunity to experience some form of internship, cooperative education, or community service in their educational programs.
        - ❖ This program is a basic science degree of wide application. The degree may be applied to professional positions within health care, environmental studies, resource management, and others. All of these fields have need for people willing to work in rural locations.

- Opportunity and Accessible Education for All: Nevada's system of higher education will increase the overall participation and success of Nevadans enrolling at all levels of higher education and in all ethnic groups, and will address the unique educational needs of a highly diverse and non-traditional population.
    - Raise the percentage of Nevada's high school graduates who continue into postsecondary education within the NSHE.
    - Increase programs and courses designed to meet the needs of working adults.
    - Expand the use of shared, new, and existing facilities on weekdays, evenings, weekends, and summers for the most cost-effective delivery of education.
        - ❖ GBC increases accessibility to students throughout a service area larger than most states. The isolation of smaller communities outside of major metropolitan areas makes them not readily supported by the current programs of Nevada's Universities and State College. GBC already has in place existing infrastructure to provide this program to its service area. Of particular importance is the efficiency of providing this degree program; all but three of the courses in the proposed program are already delivered by GBC as part of its existing Biological Science endorsement in the BA in Secondary Education program. The program also has overlap with the existing BA in Integrative Studies, Resource Management emphasis. This program will add enrollment to existing courses that are already being delivered, meaning essentially no new cost to provide this opportunity. In addition, should students with appropriate AS degrees from the other Nevada community colleges wish to transfer into the GBC program, the lower division general education requirements completed with these degrees will be accepted as complete for the GBC degree.

In addition to the NSHE Master Plan, this program supports the NSHE plan, ***The State & the System: NSHE Plan for Nevada's Colleges and Universities*** **(2010)**:

NSHE will pursue such partnerships at every level within institutions where appropriate to build student opportunity, internships, and employment, synergies for quality

operations, and potential cost savings. Likewise, better pathways for technology transfer to assist business will be explored.

This program will provide abundant opportunities for students who do not currently have a pathway into a Bachelor's degree in Biological Science in rural Nevada. The program availability already established in the curriculum in the Secondary Education program provides cost-savings, providing this program with essentially no new cost. AS and AA degrees from other community colleges will be accepted for students wishing to pursue this degree with GBC.

The program aligns with the proposals in the E-Learning report (***E-Learning and Higher Education's Iron Triangle: Opportunity, Affordability, and Student Success***, 2/11/2013). Specific recommendations addressed by this program include the following:

- Recommendation 3: Invest in Distance Education and Related Policy Review.
  For GBC, "distance education" connotes more than the basic use of the Internet for the delivery of online classes. The program will use online ability to enhance most classes, but will also use a large degree of delivery through the interactive video (IAV) format. GBC is highly invested in using this effective method of synchronous delivery that enables GBC biology instructors from campuses in Elko, Pahrump, and Winnemucca to reciprocally offer course content. Labs must generally be provided live, and facilities are available at these three sites for delivering this important component of the courses of this program. In the future, "media site" technology will be developed to addresses some of the courses through dual synchronous (through IAV) and asynchronous (recorded and available later) formats. Current GBC infrastructure, policy, and scheduling are in place for this program to utilize.
- Recommendation 6: Invest in a Shared Student Learning Portal and Student e-Portfolio.
  All four Nevada community colleges share the Canvas LMS, and Canvas provides options for creating Student Portfolios, thus allowing an early opportunity for implementing this recommendation.
- Recommendation 11: Invest in Shared Marketing.
  The largest opportunity for shared marketing with this program is to promote the opportunity for program graduates to enter graduate school at the Nevada universities. The program is focused on providing a rigorous curriculum that provides a solid foundation for entering graduate school in a range of biologically-oriented options, medical school, or other healthcare-related professional schools.

ii. Institutional mission

The Great Basin College Mission Statement:

Great Basin College enriches people's lives by providing student-centered, post-secondary education to rural Nevada. Educational, cultural, and related economic needs of the multicounty service area are met through programs of university transfer, applied science and technology, business and industry partnerships, developmental education, community service, and student support services in conjunction with certificates and associate and select baccalaureate degrees.

This program reflects the following components of the GBC Mission Statement:

- The program is specifically oriented towards students in rural Nevada and their success.

- Live student support services are available at the GBC main campus in Elko, at its four centers (Battle Mountain, Ely, Pahrump, and Winnemucca), and several of its smaller sites.
- Courses in this select baccalaureate program will be widely available throughout rural Nevada using distance technologies where possible.
- The program addresses the educational, cultural, and economic needs of rural Nevada.
    - There are currently no programs for a BS degree in Biological Sciences available to students outside of the metropolitan areas of Nevada.
    - The degree provides not only the opportunity for an education within the discipline of Biology, but this also incorporates a strong base for cultural awareness enhancement.
    - Opportunities exist for graduates in the Biological Sciences in rural Nevada and beyond. Many jobs require a basic knowledge of science together with problem solving skills. The program is highly invested in scientific knowledge, research and critical analysis required in many jobs. Potential jobs exist in private business, consulting firms, and resource management agencies. There are many professional opportunities with the health care fields. The program will advance a productive workforce that knows how to learn and to work effectively with others.
- The program will collaborate with local and state-wide businesses to identify needs for students who understand science and its application. These activities are continuously assessed to adapt to the rapidly changing needs of employers and to assist in the recruitment and economic development efforts of the state.

iii. Campus strategic plan and/or academic master plan

This program was specifically identified within the 2015-2019 update of its Academic Master Plan, approved by the NSHE Board of Regents on December 5, 2014. This is within the NSHE *2015 – 2019 Planning Report: Institutional Academic, Research, and Student Service Plans*. This plan is a subset of the approved GBC Strategic Plan.

The GBC Strategic Plan was approved by the NSHE Board of Regents at its June, 2014 meeting. The approved plan included the GBC vision statement:

> *While maintaining the strength of its community college mission, Great Basin College will remain an economically sustainable institution through growth, by increasing enrollment, expanding its service area, offering more laddered Bachelor's degrees and becoming nationally known for its innovative distance delivery systems, all leading it to be recognized as an indispensable and evolving provider of post-secondary education in rural Nevada.*

The BS in Biological Sciences is designed as a laddered Bachelor's degree coupled with a completed AS or AA degree with appropriate prerequisite courses. The program is strategic in using existing, regularly taught courses for low cost efficiency in obtaining more enrollment in existing, regularly scheduled classes. Distance technology will enhance the ability to distribute the program throughout more of rural Nevada than now has access to such a program.

iv. Department and college plan

In keeping with the GBC Science Department plan, the BS in Biological Sciences will target students with existing AS or AA degrees and supplement the existing degrees in the BA in

Secondary Education with a Biological Science endorsement, and the BA in Integrative Studies with a Natural Resources empahsis. Coursework will be offered using exsiting distance education approaches, as outlined above, in order to serve rural, place-bound and non-traditional students. The ability to deliver to the more remote popuation centers of Nevada is a key aspect of the department's plan to offer educational opportunities to students lacking access to a Bachelor's degree education in the sciences.

v. Other programs in the institution

Adding the BS in Biological Sciences to the GBC curiculum availability combines the synergies of four different programs. The program will have a strong foundation in existing GBC biological offerings that provide efficiencies that strengthen the entire department. First, existing lower division courses provide an introduction to the sciences at the local level that peak students' interest, but with no ability to follow through with a Bachelor's degree in just biological sciences. Many of the lower division courses currently support health science programs or the general education program. Second, the existing GBC Bachelor's degree programs that involve biology peripherally (Secondary Education and Natural Resources) receive limited, with enrollment capacity underutilized. Addition of a stand alone biology degree will add enrollment to existing courses with little additional instructional effort or cost. The overall effect will be a strengthening and increase in the efficiency of existing science resources.

vi. Other related programs in the System

The BS in various nuances of the biological sciences is currently offered at UNR, UNLV and NSC. However, these programs are not accessible to rural, place-bound and non-traditional students in the GBC service area. The proposed program will not compete significantly with the existing programs because of isolation of the student populations to be served by this program. Upon finishing a GBC program as proposed here, there may be a slightly increased pool of candidates prepared for and with interest in graduate school at the universities.

vii Articulation issues (within the institution)

There are no adverse articulation issues within the college. With proper advising and correct selection of lower division courses, AS degrees will articulate directly to this BS in Biological Sciences program with no loss of credit. This is also true of AS degrees from the other Nevada community colleges, though this is not the target audience. All courses are aligned with NSHE Common Course Numbering.

F. Evaluation of need for the program

i. Intrinsic academic value of program within the discipline

Biology is an integrative science, requiring a broad understanding of all sciences (physical, chemical, earth, as well as biology). This makes a biology degree an effective platform for developing the ability to synthesize complicated and multi-disciplinary ideas required of many existing jobs in natural resources, environmental work, laboratory settings. This unspecialized biology degree will also act as a pipeline to graduate school in a broad range of scientific disciplines. It will qualify students to go to professional schools (medical, dental, physician assistant, physical therapy, etc.). It will allow students to change career paths in the

sciences readily. This could occur at graduation, with transfer to a different discipline, or before graduation since the first two years of a biology degree contain introductory courses and a mathematics background that can be used in any STEM discipline.

Degrees in STEM give reasoning and analytical skills that apply outside the disciple. For example, historically science graduates have been highly ranked for entry to law school.

ii. Evidence of existing or projected local, state, regional, national and/or international need for program

The evidence of employment opportunities is provided in section iv below. Surveys and other information relevant to this item are currently being compiled and will be present in the final program proposal.

iii. If this or a similar program already exists within the System, what is the justification for this addition

Currently, UNR, UNLV and NSC all offer a BS in Biological Sciences. The required classes for these programs are typically offered using a traditional live lecture/lab format within the three major metropolitan areas of Nevada. The proposed program would provide the opportunity for rural and place-bound students to obtain a BS degree by offering classes, including live labs, closer to to where the students reside. Additionally, this program will use GBC's experience with distance education in rural Nevada to offer these courses in a cost-effective manner.

iv. Evidence of employment opportunities for graduates (state and national)

This program is designed to lead to one of several potential career paths. These could include biology careers in the public sector, biology and environmental sciences in the private sector, and pre-professional careers, where graduate school follows completion of the program.

Careers in biological sciences related to environmental sciences are projected to grow 15% from 2012 to 2022, which is faster than the average for all occupations (1). Other specialties in Biological Sciences represented in this degree are expected to grow at rates similar to or somewhat slower than the national average for all occupations (2).

A large portion of Nevada is public land that is managed by agencies of the federal government. In order for this land to be utilized for activities such as mining and ranching, biological scientists will be needed for operations to interface with the managing agency. This often requires specific federal designations and qualifications that this degree would provide. The best option for creating biological scientists for these positions is to educate place-bound students so that they can get this type of employment. Students in this degree program will qualify for employment that specifically requires a BS in Biology or a related science (such as some federal government GS 400 – series jobs). It was identified as a part of a program review of that there is a student clientele and employment need specifically in the Biological Sciences that could be served by this degree.

There is a great need for medical doctors in rural and frontier Nevada. The number of rural Nevada MDs per 100,000 population is less than half what it is in urban Nevada. Over the last 10 years many rural counties, such as Elko County, have not seen an increase in MDs in patient care even though they have seen increases in population due to gold mining. Only

4.2% of Nevada's MDs are located in the state's fourteen rural and frontier counties; while 10.3% of Nevada's population resides in rural and frontier Nevada (3). A proven solution to this shortfall in MDs is to "grow our own" in rural Nevada. GBC is working with UNSOM and the Nevada NIH INBRE statewide biomedical infrastructure grant in the design of this proposed BS degree so that it functions as an effective pre-med pipeline (3, 4).

The same employment outlook and logic applies to occupations such as dental professionals, physical therapists, and physician assistants, which are projected to be in high or very high growth and demand (5, 6, 7).

v. Student clientele to be served (Explain how the student clientele is identified)

GBC identifies students for this program through several forms of recruitment and marketing as currently employed to support the other bachelor degrees offered at the institution. The current population identified for this program is from among those participating in existing programs a default, because a preferred program in the biological sciences does not exist.

Undergraduates enrolled in GBC's Secondary Education program with the Biological Sceince endorsement area could obtain a double-major with this B.S. or complete the B.S. Biological Sciences before transferring to a post-baccalaureate teaching certification as outlined above.

There is currently no program at GBC or in the rural niches of the state that allows for ready matriculation into a medical or other professional programs. This program would provide all the prerequisites typically needed for transfer to such a program. Currently, pre-professional students are taking the freshman-level biology, chemistry, physics, and math courses required for professional schools as part of an AS or AA degree at GBC before transferring to biology and biochemistry programs at other institutions. These institutions are often out of Nevada. This student clientele could be served by the BS in Biological Sciences at GBC to promote greater retention within Nevada. From informal surveys in first-year chemistry courses there are approximately 15 students that self-identify as "pre-med" each year at GBC. Of these, it is anticipated that slightly less than one-half would complete a pre-med degree at GBC if it were available.

G. Detailed curriculum proposal

i. Representative course of study by year (options, courses to be used with/without modification; new courses to be developed)

Representative course of study by year (options, courses to be used with/without modification; new courses to be developed)

Representative Courses of Study by Year

(Note: The course sequence for the full 4 years, including a recommended pattern of study for an AS in Biological Sciences, has been attached to this application as an addendum)

Fall 1st Semester

PHYS 151 or PHYS 180	General Physics or Phys. for Scientists Engineers I	4 Credits
BIOL 320	Invertebrate Zoology	4 Credits
BIOL 410	Plant Physiology	3 Credits

Communications	Lower division general education requirement	3 Credits
		14 Credits

Spring 2nd Semester

PHYS 152 or PHYS 181	General Physics or Phys. for Scientists Engineers II	4 Credits
BCH 400	Introductory Biochemistry	4 Credits
BIOL 400	Field School in Biology	4 Credits
BIOL 434	Mammalogy	4 Credits
		16 Credits

Fall 3rd Semester

Elective	***See below for list of applicable courses	4 Credits
BIOL 300	Principles of Genetics	4 Credits
BIOL 341	Principles of Ecology	3 Credits
BIOL 394	Laboratory in Ecology and Population Biology	2 Credits
		13 Credits

Spring 4th Semester

BIOL 331	Plant Taxonomy	3 Credits
BIOL 305	Introduction to Conservation Biology	3 Credits
BIOL 415	Evolution	3 Credits
BIOL 447	Comparative Animal Physiology	3 Credits
INT 339 or INT 349	Integrated Seminar	3 Credits
		15 Credits

Total Credits: 58 for the junior and senior years. Note that the total number of credits required for the B.S. Degree is 120.5, including the A.S. degree.
Total Upper Division Credits: 43

*** Applicable electives: MATH 182, PHYS 182, GEOL 101, GEOL 102, NRES 222, NRES 223, NRES 150, GEOG 103, ENV 100, BIOL 223, BIOL 224.

ii. Program entrance requirements

To be admitted to the program, students will need to possess an AA or AS degree of 60 credits from a regionally accredited institution and have completed the following courses (or their approved equivalents): BIOL 190, BIOL 191, CHEM 121, CHEM 122, CHEM 241, CHEM 241L, CHEM 242, CHEM 242L, MATH 181, STAT 152

iii. Program completion requirements (credit hours, grade point average; subject matter distribution, preprogram requirements)

To graduate, students are required to have a cumulative GPA of 2.0 for all upper division courses applied to the degree. This includes courses taken at GBC and those transferred from other institutions.

Note: some of the following course requirements will be taken as part of an AS or AA degree

1. Lower division requirements

A. General Education Requirements

Communications General Education: COM 101, THTR 221, or THTR 102.

B. Lower Division Core Requirements			Credits
BIOL	190	Introduction to Cell and Molecular Biology	4
BIOL	191	Introduction to Organismal Biology	4
BIOL	251	General Microbiology	4
CHEM	121	General Chemistry I	4
CHEM	122	General Chemistry II	4
CHEM	241	Organic Chemistry I	3
CHEM	241L	Organic Chemistry for Life Science Lab I	1
CHEM	242	Organic Chemistry II	3
CHEM	242L	Organic Chemistry for Life Science Lab II	1
MATH	181	Calculus I	4
STAT	152	Introduction to Statistics	3

Physics requirement:

Choose one of the physics series listed below for 8 CR total. Note: Physics for scientists and engineers, including PHYS 182 Physics for Scientists and Engineers III, a lower division elective, is recommended for students planning on pursuing biological fields of study related to physical sciences.

PHYS	151	General Physics	4 and
and PHYS	152	General Physics II	4 or
PHYS	180	Physics for Scientists and Engineers I	4 and
and PHYS	181	Physics for Scientists and Engineers II	4

C. Lower Division Electives (variable credits, used to meet the credit requirements for the Associate's and Bachelor's degrees). Choose one course for the Bachelor's degree for 120.5 credits total in the degree, including the applied credits from the Associate's degree. Courses not from this list may be approved on a case-by-case basis by the BS in Biological Sciences degree committee.

ENV	100	Humans and the Environment	3
GEOL	101	Geology: Exploring Planet Earth	4
GEOL	102	Earth and Life Through Time	4
GEOG	103	Physical Geography	3
MATH	127	Precalculus II	3
or MATH	128	Precalculus and Trigonometry	5
MATH	182	Calculus II	4
NRES	150	Fundamentals of Plant Science	3
NRES	222	Soils	3
NRES	223	Soils Laboratory	1
PHYS	182	Physics for Scientists and Engineers III	4

2. Upper-Division Requirements, 43 credits

A. Upper-Division Core Requirements

*BCH	400	Introductory Biochemistry	4
BIOL	300	Principles of Genetics	4
BIOL	305	Introduction to Conservation Biology	3
BIOL	320	Invertebrate Zoology	4
BIOL	331	Plant Taxonomy	3

BIOL	341	Principles of Ecology	3
*BIOL	394	Laboratory in Ecology and Population Biology	2
BIOL	400	Field School in Biology	4
BIOL	410	Plant Physiology	3
*BIOL	415	Evolution (Capstone inside the major)	3
BIOL	434	Mammalogy	4
BIOL	447	Advanced Comparative Animal Physiology	3

B. Upper-Division General Education - Integrative Seminar - Capstone Outside of Major, Choose one for 3CR.

INT	339	Integrative Humanities Seminar or	
INT	349	Integrative Social Sciences Seminar	3

All courses with (*) will be developed by GBC within the NSHE Common Course Numbering System

iv. Accreditation consideration (organization (if any) which accredits program, requirements for accreditation, plan for attaining accreditation - include costs and time frame)

Once the program is reviewed and approved by the NSHE Board of Regents, it will be submitted to the Northwest Commission on Colleges and Universities for approval. This is the only accreditation required.

v. Evidence of approval by appropriate committees of the institution

The program was approved by the GBC Curriculum and Articulation Committee and then by the GBC Faculty Senate. Minutes are attached.

H. Readiness to begin program

i. Faculty strengths (specializations, teaching, research, and creative accomplishments)

There are five biology faculty in the GBC Science Department. Three are located in Elko, one in Pahrump, and one in Winnemucca. They hold a combination of Master and Doctoral Degrees with specializations in: Botany/Plant Genetics, Herpetology/Ecology, Biochemistry and Biophysics, Molecular Physiology, and Wildlife Biology. Collectively they possess more than 80 years of teaching experience teaching at community colleges and universities. The faculty possess many publications in their scientific specialties and several continue to take part in research and publish as GBC faculty members even though this is not part of their workload.

ii. Contribution of new program to department's existing programs (both graduate and undergraduate) and contribution to existing programs throughout the college or university

The program will operate co-efficiently with the pre-existing BA in Secondary Education, Biological Science endorsement, and BA in Integrative Studies, Natural Resources emphasis offered at GBC, making use of existing courses, facilities and faculty. The BS in Biological Sciences will also make use of Integrative Studies courses already offered for other baccalaureate degrees at the college, increasing enrollments in such courses, which are offered by faculty from various programs and departments.

iii. Completed prior planning for the development of the program (recent hires, plans for future hires, securing of space, curricular changes, and reallocation of faculty lines)

The GBC Science Department currently includes five full-time Biology faculty, and all courses required for the degree program are currently staffed and on the long-term schedule, requiring no new staffing allocations. Operation of this program will require no additional space allocations and all infrastructure exists and is already funded.

iv. Recommendations from prior program review and/or accreditation review teams
Not applicable.

v. Organizational arrangements that must be made within the institution to accommodate the program
As a new Bachelor degree program, the BS in Biological Sciences will require a program supervisor/administrator appointed from current Biology faculty.

I. Resource Analysis

i. Proposed source of funds (enrollment-generated state funds, reallocation of existing funds, grants, other state funds)
As the program makes use of currently offered courses (with the addition of three courses) and currently employed faculty, the program requires no additional funds at inception. Future growth, dependent on enrollment, will be funded through enrollment-generated state funds in proportion to course enrollment increases.

ii. Each new program approved must be reviewed for adequate full-time equivalent (FTE) to support the program in the fifth year. Indicate if enrollments represent 1) students formally admitted to the program, 2) declared majors in the program, or 3) course enrollments in the program.

Students will be identified as those who have declared the program as their major.

a. (1) Full-time equivalent (FTE) enrollment in the Fall semester of the first, third, and fifth year.

1st Fall semester _2___

3rd Fall semester _8___

5th Fall semester _10__

(2) Explain the methodology/assumptions used in determining projected FTE figures.
Projections of FTE are based on estimated headcount enrollment discussed in b.(2) below. FTE is estimated to be about two thirds of headcount based on previous experience with GBC programs. Headcount and FTE are anticipated to reach projected enrollment levels in about the fifth year of the program.

b. (1) Unduplicated headcount in the Fall semester of the first, third, and fifth year.

1st Fall semester _3_

3rd Fall semester _12___

5th Fall semester _15___

(2) Explain the methodology/assumptions used in determining projected headcount figures.

Students currently taking biology and chemistry classes at GBC were polled about their interest in enrolling in a program toward a B.S in Biological Sciences from GBC. Of 147 students polled (unduplicated count), 46 responded "Yes," they would be interested, 57 responded that they would possibly be interested, and 44 said they would not be interested.

Of those current GBC students responding "Yes" to being interested in completing a Biological Sciences program at GBC, if a third are to follow through on this interest, this would indicate about 15 per year eventually engaging in the program. This is the number expected to be enrolled by the fifth year of the program. Because the program will be approved only 2.5 months before it could first be offered, it is assumed that there will be very little enrollment in the first year.

iii. Budget Projections – Complete and attach the Five-Year Budget Projection Table.
Attached.

J. Facilities and equipment required

i. Existing facilities: type of space required, number of assignable square feet, space utilization assumptions, special requirements, modifications, effect on present programs
All existing facilities required for this program exist with no modifications needed.

ii. Additional facilities required: number of assignable square feet, description of space required, special requirements, time sequence assumed for securing required space
Implementation will require no additional space.

iii. Existing and additional equipment required
Upon approval, the program will make use of existing equipment with no predicted additional equipment needs in the immediate future.

K. Student services required – Plans to provide student services, including advisement, to accommodate the program, including its implications for services to the rest of the student body
Current faculty and the appointed program supervisor will provide advisement for students in the program as well as to A.A. and A.S. students with intentions to enter the program upon their completion of the required entrance degree. The program supervisor will conduct degree application review. Recruitment efforts will be shared between the Recruitment Department, the BS in Biological Sciences Program Supervisor and the full-time Science faculty.

L. Consultant Reports – If a consultant was hired to assist in the development of the program, please complete subsections A through C. A copy of the consultant's final report must be on record at the requesting institution.

Not applicable.

i Names, qualifications and affiliations of consultant(s) used

n/a

ii. Consultant's summary comments and recommendations

n/a

iii. Summary of proposer's response to consultants

n/a

M. Articulation Agreements

i Articulation agreements were successfully completed with the following NSHE institutions. (Attach copies of agreements)

None have been completed pending approval of the program.

ii. Articulation agreements have not yet been established with the following NSHE institutions. (Indicate status)

Articulation agreements at College of Southern Nevada, Truckee Meadows Community College, and Western Nevada College have not yet been completed because the program has not yet been approved. However, approval of this program assures that graduates from AS programs with the appropriate lower division courses will be automatically articulated directly into the GBC program. Once the program is approved, the formality of making articulation agreements will be completed.

iii. Articulation agreements are not applicable for the following institutions. (Indicate reasons)

Articulation agreements are not required with UNLV, UNR, or NSC because GBC does not expect to receive students transferring from those institutions. Individual courses will transfer between the institutions since NSHE Common Course Numbering practices are observed.

N. Summary Statement

This proposal to create a BS in Biological Sciences at GBC represents a serious effort to fulfill GBC's mission of providing educational opportunities to rural, place-bound, and non-traditional students as well as our dedication to increasing co-efficiencies in our course offerings and degree programs. The science infrastructure that GBC already has in place, such as labs at rural GBC centers in Ely, Winnemucca, and Pahrump, as well as GBC's experiences in distance education will be utilized to reach a clientele currently unserved within Nevada. This will afford currently enrolled GBC students an opportunity to pursue dual degrees to better compete for emplyment in public and private sector STEM jobs related to biology as well as prepare them for entrance into medical and related professional schools.

The synergistic addition of students from this program to courses in the existing BA in Secondary Education, Bioloigical Science endorsement and BA in Integrative Studies, Natural Resources emphasis will ensure its self-sufficiency and contribution to both NSHE and GBC. Additionally, as

the program will function co-efficiently with already existing programs within the institution, The GBC Science Department stands ready to begin the program with no additional expenditure of funds or staff. The facilities required to begin this degree program, as well as the trained faculty and staff members necessary to ensure its success, are currently in place and ready to begin work.

With great respect to our sister institutions, NSHE and the Board of Regents, we request your approval to implement the Bachelor of Science degree in Biological Sciences at Great Basin College. With your consent, we will be poised to reach new clientele in the state and expand the higher education opportunities offered to its hard-working citizens, helping them become vanguards in the workforce of Nevada's future.

References:

1. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Environmental Scientists and Specialists, on the Internet at http://www.bls.gov/ooh/life-physical-and-social-science/environmental-scientists-and-specialists.htm (visited *January 12, 2015*).

2. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Zoologists and Wildlife Biologists,
on the Internet at http://www.bls.gov/ooh/life-physical-and-social-science/zoologists-and-wildlife-biologists.htm (visited *January 12, 2015*).

3. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Physicians and Surgeons,
on the Internet at http://www.bls.gov/ooh/healthcare/physicians-and-surgeons.htm (visited *January 12, 2015*).

4. *Physician Workforce in Nevada – 2014 Edition*, retrieved from
http://medicine.nevada.edu/Documents/unsom/statewide/reports/Physician_Workforce_in_Nevada-July_2014.pdf (*visited January 12, 2015*)

5. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Dentists, on the Internet at http://www.bls.gov/ooh/healthcare/dentists.htm (visited *January 12, 2015*).

6. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Physical Therapists, on the Internet at http://www.bls.gov/ooh/healthcare/physical-therapists.htm (visited *January 12, 2015*).

7. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2014-15 Edition*, Physician Assistants, on the Internet at http://www.bls.gov/ooh/healthcare/physician-assistants.htm (visited *January 12, 2015*).

Four-year plan for Associate of Science (Pattern of Study) and Bachelor of Science in Biological Sciences

		Credits
Semester 1		
INT 100	GBC Orientation	0.5
BIOL 190	Introduction to Cell and Molecular Biology	4
CHEM 121	General Chemistry I	4
MATH 181	Calculus I	4
ENGL 101	Composition I	3
	total	15.5
Semester 2		
BIOL 191	Introduction to Organismal Biology	4
CHEM 122	General Chemistry II	4
STAT 152	Introduction to Statics	3
Fine Arts	General Education	3
ENGL 102	Composition II	3
	total	17
Semester 3		
Technology	General Education - CS 135 or GIS 109	3
CHEM 241	Organic Chemistry I	3
CHEM 241L	Organic Chemistry I Lab	1
Lower div elective	***	3
Humanities	General Education	3
Social Sci	General Education	3
	total	16
Semester 4		
CHEM 242	Organic Chemistry II	3
CHEM 242L	Organic Chemistry II Lab	1
BIOL 251	General Microbiology	4
Lower div. elective	***	3
Social Sci	General Education	3
	total	14

AS total =
62.5 Credits

Semester 5		
Physics	(PHYS 151 or PHYS 180)	4
BIOL 320	Invertebrate Zoology	4
BIOL 410	Plant Physiology	3
Communications	Communications general requirement (COM 101, THTR 221, or THTR 102)	3
	total	14
Semester 6		
Physics	(PHYS 152 or PHYS 181)	4
*BCH 400	Introductory Biochemistry	4
BIOL 400	Field School in Biology	4
BIOL 434	Mammalogy	4
	total	16
Semester 7		
Lower div elective	***	4
BIOL 300	Principles of Genetics	4
BIOL 341	Principles of Ecology	3
*BIOL 394	Laboratory in Ecology and Population Biology	2
	total	13
Semester 8		
BIOL 331	Plant Taxonomy	3
BIOL 305	Introduction to Conservation Biology	3
*BIOL 415	Evolution	3
BIOL 447	Comparative Animal Physiology	3
INT 339 or 349	Integrated Seminar	3
	total	15

BS total = 58 Credits

Grand total = 120.5 Credits

Upper div total = 43 Credits

* New course

***(MATH 127 or MATH 128), MATH 182, PHYS 182, GEOL 101, GEOL 102, NRES 222, NRES 223, NRES 150, GEOG 103, ENV 100, BIOL 223, BIOL 224

Organizational notes:
We are listing the AS pattern of study in one part of the catalog and the BS in another. This has led to some redundancies and page references.

Associate of Science in Biological Sciences and Associate of Science for Biological Sciences and Pre-professional Studies (Pattern of Study)

Student Learning Outcomes

- Demonstrate the ability to communicate the nature of scientific knowledge and the scientific method and how they were developed.
- Demonstrate the association between biological structure and function.
- Demonstrate the relationship between molecular genetics and cell and organism function.
- Show how organisms are genetically related, interact on a population level, have evolved, and are evolving.

This program provides graduates with the courses typically required for Pre-Professional students during their first two years of a bachelor's degree program. The courses in this program satisfy Professional school entrance requirements typically taken during the first two years of a bachelor's degree program. This program contains the complete content required for students to achieve acceptable entrance scores on Professional school admission tests such as the Medical College Admission Test (MCAT) and other Professional school admission tests.

This two-year Associate of Science Pattern of Study integrates with the Bachelor of Science in Biological Sciences degree listed on [page xxx] of this catalog. Please consult with an advisor if you plan to enter this Bachelor degree program in order to facilitate timely completion of the four-year degree.

General Education Requirements

	Credits	
GBC Orientation	0.5	
English/Communications	6	ENG 102 (prerequisite: ENG 101 or equivalent)
Mathematics	7	MATH 181 and STAT 152
Science	13	Gen education science

(The Science General Education requirement is fullfilled by the emphasis courses listed below.)

Social Science	6	
Humanities	3	
Fine Arts	3	
Technology	3	CS 135 or GIS 109 required

List of courses fulfilling general education requirements is on [page xxx].

Emphasis Courses

	Description	Credits
BIOL 190	Introduction to Cell and Molecular Biology	4
BIOL 191	Introduction to Organismal Biology	4
BIOL 251	General Microbiology	4
CHEM 121	General Chemistry I	4
CHEM 122	General Chemistry II	4
CHEM 241	Organic Chemistry I	3
CHEM 241L	Organic Chemistry for Life Sciences Lab I	1
CHEM 242	Organic Chemistry II	3
CHEM 242L	Organic Chemistry for Life Sciences Lab II	1
Electives (see below)		6-8

Electives

Sufficient coursework is required to bring the total number of credits in the Associate of Science to 60 CR. Choose courses from the following list.
MATH 127, MATH 128, MATH 182, PHYS 182, GEOL 101, GEOL 102, NRES 222, NRES 223, NRES 150, GEOG 103, ENV 100, BIOL 223, BIOL 224.

Suggested Course Sequence

Semester 1		
INT 100		0.5
BIOL 190	Introduction to Cell and Molecular Biology	4
CHEM 121	General Chemistry I	4
MATH 181	Calculus I	4
ENGL 101	Composition I	3
	total	15.5

Semester 2		
BIOL 191	Introduction to Organismal Biology	4
CHEM 122	General Chemistry II	4
STAT 152	Introduction to Statics	3
Fine Arts		3
ENGL 102	Composition II	3
	total	17
Semester 3		
Technology	(limited in AS degree Gen Ed to CS and GIS)	3
CHEM 241	Organic Chemistry I	3
CHEM 241L	Organic Chemistry I Lab	1
Lower div elective	***	3
Humanities		3
Soc Sci		3
	total	16
Semester 4		
CHEM 242	Organic Chemistry II	3
CHEM 242L	Organic Chemistry II Lab	1
BIOL 251	General Microbiology	4
Lower div. elective	***	3
Soc Sci		3
	total	14
		AS total =
		62.5

Bachelor of Science in Biological Sciences

Student Learning Outcomes

- Demonstrate the ability to communicate the nature of scientific knowledge and the scientific method and how they were developed.
- Demonstrate the association between biological structure and function.
- Demonstrate the relationship between molecular genetics and cell and organism function.
- Show how organisms are genetically related, have evolved, and are evolving.
- Integrate the complexity of the metabolism of cells and organisms.
- Analyze the complex interplay of how organisms and populations respond to and interact with each other and their environment.
- Demonstrate effective communication skills with regards to complex biological concepts, orally and in writing.
- Students will be able to meet professional goals. Specifically…
    - Fulfilling graduate, medical, and other professional school entrance requirements including success on entrance exams.
    - Obtaining employment needed in the region (federal and state agencies, industry, education) and beyond
    - Obtaining employment not linked to this degree or even science from analytical skills in this Bachelor of Science degree

Mission Statement

The mission of the BS in Biological Sciences is to provide high-quality student-centered program bachelor program in the sciences to rural Nevada that 1) relates to the economic need within and outside our region for professionals in the biological sciences, 2) relates to the economic need within and outside our region for rural health and medical professionals through university transfer to medical and other professional programs, and 3) relates to the aspect of the GBC mission on university transfer by providing a biological sciences undergraduate degree for transfer to graduate school in biological sciences and related disciplines.

Accreditation

Program Description

The BS in Biological Sciences delivers a general (not specialized) degree in biology. The BS in Biological Sciences is the second half of a four year bachelor degree that begins with an associate degree from a regionally accredited institution. Students will complete an associate degree (associate of arts or associate of sciences) and prerequisites (see below) before entering the bachelor degree program. The bachelor degree consists of approximately 60 semester credits which are offered in a two-year rotation. As this a general biology degree the courses in the BS program are distributed between the four primary content areas in biology: the molecular basis of life, organismal biology (survey of organisms and function), genetics (including the molecular basis of gene expression), and ecology. Evolution by natural selection, the central theory of biology and the mechanism by which the life we have on earth came about, is a central theme in all biology-related courses.

Academic Advising

Every BS in Biological Sciences student has a faculty member in the discipline assigned as an advisor. Students are required to obtain advising each semester.

Admission to Program

In order to be admitted to the program students must do both of the following:

- Complete of an Associate of Science (AS) or Associate of Arts (AA) degree of 60 credits including the equivalent of ENG 102 from a regionally accredited institution.
- Complete the following courses (or their approved equivalents), most of which are prerequisites for upper division courses in the degree in a two-year rotation. BIOL 190, BIOL 191, CHEM 121, CHEM 122, CHEM 241, CHEM 241L, CHEM 242, CHEM 242L, MATH 181, STAT 152, or equivalent. Completion of these courses before entering the Biological Sciences Bachelor degree program facilitates completion of the BS in two years.

Students need to complete the application form for the B.S. Biological Sciences to be formally admitted to the program. Applications are accepted any time; applications received on or before March 15 will be assigned the current catalog year while applications received after March 15 will be assigned to the following catalog year. The form is available online on the GBC Website. Go to www.gbcnv.edu and then go to Academics. Click on the B.S. Biological Sciences link to access the form. Transfer

students must provide official transcripts from all other accredited institutions attended to complete the application process. Applications must be complete to be processed.

Maintaining Good Standing

- Students must maintain a GPA of 2.0 (cumulative) to remain in good standing in the program.
- To graduate, students are required to have a cumulative GPA of 2.0 for all upper division courses applied to the degree. This includes courses taken at GBC and those transferred from other institutions.
- Students must make progress toward the degree with no lapses exceeding three semesters.
- Students not meeting the above criteria may be dismissed from the program.

Academic Honesty

Students must comply with Student Conduct and Academic Honesty policies as described in the GBC Catalog and NSHE Code; incidents of student misconduct and/or academic dishonesty will be reported the Vice President of Student Services and the appropriate Biological Sciences program supervisor. Disciplinary action may include a written warning, reprimand, college probation, suspension or expulsion from the Biological Sciences Program. Disciplinary action can be imposed in any order depending on the seriousness of the misconduct. In the event a student's status changes to probationary, a plan of action will be created for reinstatement to the Biological Sciences. Failure to meet this action plan will result in expulsion from the program.

B.S. Biological Sciences requirements

1. Lower division requirements

A. General Education Requirements

Communications	COM 101, THTR 221, or THTR 102	3CR

B. Lower Division Core Requirements

			CR
BIOL	190	Introduction to Cell and Molecular Biology	4
BIOL	191	Introduction to Organismal Biology	4
BIOL	251	General Microbiology	4
CHEM	121	General Chemistry I	4
CHEM	122	General Chemistry II	4
CHEM	241	Organic Chemistry I	3

CHEM 241L	Organic Chemistry for Life Science Lab I	1
CHEM242	Organic Chemistry II	3
CHEM242L	Organic Chemistry for Life Science Lab II	1
MATH 181	Calculus I	4
STAT 152	Introduction to Statistics	3

i. Physics requirement

Choose one of the physics series listed below for 8 CR total. Note: Physics for scientists and engineers, including PHYS 182 Physics for Scientists and Engineers III, a lower division elective, is recommended for students planning on pursuing biological fields of study related to physical sciences.

PHYS 151	General Physics	4 and
and PHYS 152	General Physics II	4 or
PHYS 180	Physics for Scientists and Engineers I	4 and
and PHYS 181	Physics for Scientists and Engineers II	4

C. Lower Division Electives (variable credits, used to meet the credit requirements for the associate and bachelor degree). Choose one course. Courses should be chosen for 120CR total in the bachelor degree, including the applied credits from the associate degree. Courses not from this list may be approved on a case-by-case basis by the B.S. Biological Sciences degree committee.

ENV 100	Humans and the Environment	3
GEOL 101	Geology: Exploring Planet Earth	4
GEOL 102	Earth and Life Through Time	4
GEOG 103	Physical Geography	3
MATH 127	Precalculus II	3
or MATH 128	Precalculus and Trigonometry	5
MATH 182	Calculus II	4
NRES 150	Fundamentals of Plant Science	3
NRES 222	Soils	3
NRES 223	Soils Laboratory	1
PHYS 182	Physics for Scientists and Engineers III	4

2. Upper-Division Requirements, 43CR

A. Upper-Division Core Requirements

BCH 400	Introductory Biochemistry	4 (New)
BIOL 300	Principles of Genetics	4
BIOL 305	Introduction to Conservation Biology	3
BIOL 320	Invertebrate Zoology	4
BIOL 331	Plant Taxonomy	3

BIOL	341	Principles of Ecology	3
BIOL	394	Laboratory in Ecology and Population Biology	2 (New)
BIOL	400	Field School in Biology	4
BIOL	410	Plant Physiology	3
BIOL	415	Evolution (***Capstone inside the major)	3 (New)
BIOL	434	Mammalogy	4
BIOL	447	Advanced Comparative Animal Physiology	3

B. Upper-Division General Education - Integrative Seminar - ***Capstone Outside of Major, Choose one for 3CR.

INT	339	Integrative Humanities Seminar or	
INT	349	Integrative Social Sciences Seminar	3

Note on new Courses

Note: There are **three** new courses included in the list above (BIOL 394, BIOL 415, and BCH 400) which are described below. These course descriptions are taken from the UNR or UNLV catalogs verbatim (including equivalent GBC prerequisites) and are planned to be used at GBC to strictly comply with common course numbering. All other courses have previously been taught at GBC and are required in other programs.

BCH 400 - Introductory Biochemistry (from UNR)
A comprehensive overview of the three major areas in Biochemistry. Structure function of Biomolecules, Metabolism, and Molecular Biology.
4 CR
Prerequisites: BIOL 190 and CHEM 242
The faculty member that will be teaching this course has a PhD in Cell and Molecular Biology and has taught biochemistry courses at the graduate level.

BIOL 394 - Laboratory in Ecology and Population Biology (from UNR)
Research techniques and investigative approaches in field and laboratory studies.
2 CR
Prerequisites: STAT 152 and BIOL 191
The faculty member that will be teaching this course has a PhD in Ecology.

BIOL 415 - Evolution (from UNLV)
Introduction to evolutionary biology, focusing on the processes that have been (and are currently) responsible for the generation and maintenance of biological diversity. (Major capstone course at UNR and GBC)
3 CR

Prerequisites: completion of lower division general education, BIOL 300, BIOL 341, and CHEM 241.
We have planned to rotate this course amongst all the biology faculty on campus. As it is the fundamental theory in biology this seems reasonable.

Suggested Course Sequence

Years 1-2: Completion of Associate of Science Pattern of Study in Biological Sciences or other associate degree (see notes above). See [page xxx] of the catalog for a description of the associate degree pattern of study.

Semester 5 (Fall odd-numbered years)		
Physics	(PHYS 151 or PHYS 180)	4
BIOL 320	Invertebrate Zoology	4
BIOL 410	Plant Physiology	3
Communications	Communications general education (COM 101, THTR 221, or THTR 102)	3
	total	14
Semester 6 (Spring even-numbered years)		
Physics	(PHYS 152 or PHYS 181)	4
***BCH 400**	**Introductory Biochemistry**	**4**
BIOL 400	Field School in Biology	4
BIOL 434	Mammalogy	4
	total	16
Semester 7 (Fall even-numbered years)		
Lower div elective	***	4
BIOL 300	Principles of Genetics	4
BIOL 341	Principles of Ecology	3

***BIOL 394**	**Laboratory in Ecology and Population Biology**	**2**
	total	13
Semester 8 (Spring odd-numbered years)		
BIOL 331	Plant Taxonomy	3
BIOL 305	Introduction to Conservation Biology	3
***BIOL 415**	**Evolution**	**3**
BIOL 447	Comparative Animal Physiology	3
INT 339 or 349	Integrated Seminar	3
	total	15
		BS total =
		58
		Grand total =
		120.5
		Upper div total =
		43