Undergraduate Curriculum Committee Minutes

October 23, 2019 **ADUC 310** **3:00 – 4:30 p.m.**

PLEASE NOTE: All proposals approved by the Undergraduate Curriculum Committee are sent to the Provost for final approval.

Members Present: Dr. Laurie Couch, Dr. Janet Ratliff, Dr. Daryl Privott, Dr. Mark Graves, Dr. Dirk Grupe, Dr. Nilesh Joshi, Dr. Sara Lindsey, Dr. Morgan Getchell, Dr. Flint Harrelson, Ms. Pam Colyer (Library for Dr. David Gregory), Mr. Connor Tilford, Ms. Kerry Murphy

Members Absent: Ms. Lori Ann Dobson

Originators Present: Dr. Lynn Parsons (Nursing), Dr. Sherif Rashad & Dr. Heba Elgazzar (Computer Science)

Online Committee Actions:

New Course Proposal:

- ~~*NURS 318: Success in College, Career and Life*~~ *(*Pulled for face-to-face discussion)
- *CS 285: Programming in C#* (Approved with the corrections listed below)
- *CS 385: Advanced Programming Methods* (Approved with corrections listed below)
- *CS 440: Parallel and Distributed Systems* (Approved with corrections listed below)
- *CS 482: Digital Forensics* (Approved with corrections listed below)

  Dr. Grupe:
  Adjustment to attendance policy to include UAR 131.04 on syllabi
  Correction of typographical error in II. D. (complete, not comeplete)
  In V. A., adjust cap to 29 students instead of 30
  For CS 385: V. B., correct start date to 2021

Minor Revision to an Existing Course:

- *CS 372: Math for Computer Games* (Approved with correction below)

  Dr. Grupe: Correction of typographical error in CS 372 proposal: II. A., (understand, not undersatnd).

Minor Revision to Existing Program:

- *Veterinary Technology AAS* (Approved)
- *Veterinary Technology BS* (Approved)

Program Track Minor Certificate Deletion or Reinstatement:

- *Deletion: Chemistry Major BS – Track 2: Environmental Chemistry* (Approved)

IN-MEETING PROPOSALS

New Course:

- *NURS 318: Success in College, Career and Life – Dr. Lynn Parsons*

Dr. Parsons highlighted the following concerning the course:

- The course is geared toward the Registered Nurses who return to complete a Bachelor of Science in Nursing degree (RN to BSN students). However, due to the universality of the content, it is open to any interested student.
- It is a higher level course that does not overlap content with a first year seminar/freshmen orientation course. The name of the course reflects the primary textbook. The course does introduce students to the culture of the academy but also assists with career and life goals. This will assist the students who will have more opportunities for upward mobility into management once a BSN is earned.
- The course has eight Discussion Boards that require the student to reflect on what they are doing with their time, what motivates them, how they work with other people (interdependently) to meet goals, the importance of self-esteem and self-respect, etc. There are five assignments of which four are journal entries. Journal Entry #1 has the students completing a Personal Strengths and Weaknesses Inventory to raise their personal awareness. At the conclusion of the course they complete the same inventory in Journal Entry #4 to review and reflect how this course made an impact. Journal Entry #2 foci is "Acting with Purpose" which requires students to put on paper how they spend their time and Journal Entry #3 focuses on "Self-Defeating Patterns" – again, the student reflects on behaviors and patterns that do not promote personal success and learn healthy ways for being proactive and successful. Last, there is an Assertiveness assignment that helps the student be proactive in school, life and career.

Dr. Graves stated that his concern with the course was housing it in a specified department due to the content of the course and it being open to any interested student. Dr. Parsons stated that the RN to BSN program degree requirements include completion of nine hours of upper level NURS courses. She also stated that most other NURS prefix courses appeal primarily to RN-BSN students, Associate Degree Nursing Program students, Pre-licensure Nursing Program students and Bachelor of University Studies students. Since, the course will also be offered as 1/2 semester course it will be beneficial for students needing to add a course at the midpoint of the semester to maintain full-time status.

Dr. Harrelson expressed that the additional information illustrates that the course is beyond a freshman seminar level. He asked about faculty credentialing. Dr. Couch explained that since the course is a NURS course, nursing faculty/instructors with 18 hours in graduate program would be

qualified. Dr. Graves moved to approve the course proposal. Dr. Grupe seconded. The UCC voted and approved unanimously.

Major Revision of Existing Program:

- *Veterinary Science Area – BS – Dr. Flint Harrelson for Dr. Phil Prater*

Dr. Harrelson stated that the proposal was to allow flexibility in the courses available as the sciences electives for the program. The courses are chosen in consultation with the advisor. Students are keenly aware that the electives will be scrutinized when they apply to veterinary school. Ms. Murphy stated there was not an issue with incorporating all courses in the College of Science at 300 level or above into the degree program. There was discussion noting that some courses would be excluded unless students complete the required prerequisites. Dr. Joshi questioned if it would be possible to include science courses outside of the College of Science. Dr. Harrelson stated that appropriate courses could be considered and approval addressed using the course substitution process. Dr. Lindsay noted spelling errors for correction. Dr. Graves made motion to approve and Dr. Grupe seconded. The UCC voted and approved unanimously.

- *Computer Science Area – BS – Dr. Sherif Rashad & Dr. Heba Elgazzar*
- *Computer Science Major – BS – Dr. Sherif Rashad & Dr. Heba Elgazzar*

Dr. Sherif Rashad gave an overview of the proposals and indicated that they had aligned them with the curriculum guidelines to prepare for ABET accreditation including:

- Major Revision of the Area of Concentration in Computer Science program that includes:
  - Changing the requirements of the program core courses for the CS program.
  - Adding new tracks in Data Science and in Computer Engineering.
  - Changing the name of the Computer Science General Track to Advanced Topics Track.
  - Changing the name of the Computer and Networking Security Track to Cybersecurity Track.
  - Updating the required courses for each track by removing and adding courses.
  - Updating the list of computer science elective courses by removing and adding courses.
- Major Revision of Computer Science Major program that includes:
  - Changing the requirements of the program core courses for the CS program.
  - Updating the list of computer science elective courses by removing and adding courses.

He indicated that the proposed revisions would assist graduates in the job market. A discussion occurred concerning the timeline for applying for ABET accreditation, the importance of students completing CS 170 (not the equated MATH 170) but acknowledged that if the student completes the equated MATH course it will fulfil the requirement. Additionally, Dr. Harrelson noted that in the Computer Engineering Track, EEC 344 has a prerequisite of EEC 242 which is not a requirement, creating a hidden prerequisite. He also noted that EEC 400 required EEC 344. The CS faculty requested to amend the proposal by adding EEC 242 to the track requirements and removing EEC 400. The committee discussed how the curriculum design fostered the integration of knowledge and the development of analysis and inquiry skills in students. Dr. Lyndsey commented that the student learning outcomes are clear and

appropriate. Dr. Privott stated that the Program's fit well with the University's Mission of educating students for success.

Dr. Graves moved to approve the Area in Computer Science and Dr. Privott seconded. The committee voted and approved the proposal as amended above.

Dr. Harrelson moved to approve the Major in Computer Science Proposal and Dr. Grupe seconded. The committee voted and approved the proposal as amended above.

CURRICULUM FORMS AND PROCESSES – Dr. Laurie Couch

Dr. Couch stated that she has solicited input concerning the curriculum development process from Department Chairs. She also requested in person feedback from the committee. Dr. Grupe indicated that pre-review and the proposal checklist are beneficial. Dr. Couch stated that with the General Education Implementation, all programs will need to complete a curriculum proposal, which will likely be overwhelming. An internal review of the form determined that very little can be removed due to the need of gathering the information. Although the curriculum approval process is set by Faculty Senate, however the committee discussed the process and considered recommendations including reducing the steps/levels needed for approval. Dr. Graves suggested that each department or College could keep a document/template that lists the answers for certain questions that are not likely to change with each proposal; for instance, how programs align with the Mission statement for the University. A discussion of a process map that would deviate depending on the type of proposal; for instance, a minor change proposal would require less levels of approval. Dr. Couch requested that Dr. Grupe discuss the idea within the faculty senate subcommittee.

SYLLABI, STUDENT LEARNING OUTCOMES & PROGRAM OBJECTIVES – Dr. Laurie Couch

Dr. Couch stated that some syllabi that have been collected and reviewed do not comply with the University's Syllabus Checklist and do not include the approved student learning outcomes (SLOs) or the SLOs are not consistent across sections. The committee discussed ideas of ensuring course SLOs listed are those that have been approved through the curriculum approval process. The Committee discussed an expedited form/process of confirming/updating course SLOs. The Committee recommended that only the courses being offered in the Spring semester undergo this process during the current term and the others next term (completed by March 2020). This timeline allows for the approved SLOs to be placed on the Spring syllabi while updating to comply with the Syllabus Checklist. Dr. Couch reminded the Committee that the course SLOs should build up to ensure that Program Objectives are attained. She stated that the confirming/updating of course SLOs are part of a larger curriculum review. In March, Programs will need to submit a document showing how the program's curriculum is designed to align instruction with the approved program goals. Dr. Couch thanked the committee for their input.

Next meeting: November 11, 2019

Undergraduate Curriculum Committee Vote Tally

10/23/2019

Y = Approve
N = Do Not Approve
A = Abstain
O = Absent

First Responder:	Morgan Getchell	*09.11.19 Minutes*		*NURS 318*		*CS 285*		*CS 385*		*CS 440*		*CS 482*		*CS 372*		*VT AAS*		*VT BS*		*Env. Chem Track Deletion*	
Janet	Ratliff	Y		Pulled for discussion		Y		Y		Y		Y		Y		Y		Y		Y	
Daryl	Privott	Y				Y		Y		Y		Y		Y		Y		Y		Y	
Mark	Graves	Y				Y		Y		Y		Y		Y		Y		Y		Y	
Dirk	Grupe	Y				Y		Y		Y		Y		Y		Y		Y		Y	
Nilesh	Joshi	Y				Y		Y		Y		Y		Y		Y		Y		Y	
Sara	Lindsey	Y				Y		Y		Y		Y		Y		Y		Y		Y	
Morgan	Getchell	Y				Y		Y		Y		Y		Y		Y		Y		Y	
Flint	Harrelson	Y				Y		Y		Y		Y		Y		Y		Y		Y	
Pam	Colyer	Y				Y		Y		Y		Y		Y		Y		Y		Y	
Conner	Tilford	Y				Y		Y		Y		Y		Y		Y		Y			A
Lori Ann	Dobson	Y				Y		Y		Y		Y		Y		Y		Y			A
	Results:	**Approved**		**Approved**		**Approved**		**Approved**		**Approved**		**Approved**		**Approved**		**Approved**		**Approved**		**Approved**	

PROGRAM/TRACK/MINOR/CERTIFICATE

Deletion/Reinstatement for Program or Track or Minor or Certificate

Undergraduate Curriculum Routing Form

January 2019

Program/Minor/Certificate: (as listed in the current catalog)	Chemistry Major - Bachelor of Science - Track 2: Environmental Chemistry
Department: (as listed in the current catalog)	Biology & Chemistry
College: (as listed in the current catalog)	Science

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures ***(Signatures must be handwritten; electronic signatures are not accepted.)***

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Department Chair or Associate Dean (Sign and Print) — (X) Approved ( ) Disapproved — 8/29/19 Date

DIRK GRUPE

College Curriculum Committee (Sign and Print) — (X) Approved ( ) Disapproved — 2019-05-16 Date

WAYNE MILLER

Dean (Print and Sign) — (X) Approved ( ) Disapproved — 9/10/2019 Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if program, is a secondary education program) (Sign and Print) — Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu ***(the two documents must be exactly the same).***

Laurie L Couch — Laurie L Couch — (X) Approved ( ) Disapproved — 10/23/19

AVP UESS-CPE Academic Programs Liaison (Sign and Print) — Date

Laurie L. Couch — Laurie L Couch — (X) Approved ( ) Disapproved — 10/23/19

Undergraduate Curriculum Committee (Sign and Print) — Date

( ) Approved ( ) Disapproved — 11-4-19

Vice President for Academic Affairs (Sign and Print) — Date

For Academic Programs Office Use Only _____Program _____Minor _____ Certificate

Official Suspension Date: _____ Date CPE Notified of Suspension: _____

For CPE reporting purposes, a deleted program will be marked as suspended for a minimum of 2 years and a maximum of 5 years to allow for the teach-out plan.

Date AVP UESS notified SAC's Liaison: _____ SAC's Response Date: _____

Date AVP UESS notified of SAC's Response: _____ SACS Response: ☐ Approved ☐ Denied ☐ Revision Required

Last Catalog Date: _____ Date CPE Notified of Deletion: _____ Program/Minor/Certificate Final Deletion Date: _____

PROGRAM/TRACK/MINOR/CERTIFICATE

Deletion/Reinstatement for Program or Track or Minor or Certificate

Undergraduate Curriculum Routing Form

January 2019

Program/Minor/Certificate: (as listed in the current catalog)	Chemistry Major - Bachelor of Science - Track 2: Environmental Chemistry
Department: (as listed in the current catalog)	Biology & Chemistry
College: (as listed in the current catalog)	Science

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Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Department Chair or Associate Dean (Sign and Print) — (X) Approved ( ) Disapproved — 8/29/19 Date

DIRK GRUPE — (X) Approved ( ) Disapproved — 2019-05-16

College Curriculum Committee (Sign and Print) — Date

WAYNE MICKE — (X) Approved ( ) Disapproved — 9/10/2019

Dean (Print and Sign) — Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if program, is a secondary education program) (Sign and Print) — Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu ***(the two documents must be exactly the same).***

Laurie L Couch — Laurie L Couch — (✓) Approved ( ) Disapproved — 10/23/19

AVP UESS-CPE Academic Programs Liaison (Sign and Print) — Date

Laurie L. Couch — Laurie L Couch — (✓) Approved ( ) Disapproved — 10/23/19

Undergraduate Curriculum Committee (Sign and Print) — Date

( ) Approved ( ) Disapproved

Vice President for Academic Affairs (Sign and Print) — Date

For Academic Programs Office Use Only _____Program _____Minor _____ Certificate

Official Suspension Date: _____ Date CPE Notified of Suspension: _____

For CPE reporting purposes, a deleted program will be marked as suspended for a minimum of 2 years and a maximum of 5 years to allow for the teach-out plan.

Date AVP UESS notified SAC's Liaison: _____ SAC's Response Date: _____

Date AVP UESS notified of SAC's Response: _____ SACS Response: ☐ Approved ☐ Denied ☐ Revision Required

Last Catalog Date: _____ Date CPE Notified of Deletion: _____ Program/Minor/Certificate Final Deletion Date: _____

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Program/Track/Minor/Certificate: (as listed in the current catalog)	Chemistry Major - Bachelor of Science - Track 2: Environmental Chemistry
Department: (as listed in current catalog)	Biology and Chemistry
College: (as listed in current catalog)	Science

Helpful Information:

1. Any proposal with a secondary education component must be routed through the Teacher Education Council.
2. Edits to the proposal may be requested at any level of review. The originator of the proposal should make such edits. The originator also may be asked to address questions (in writing or in person) at any level of review.
3. Students must be admitted to the Program until the proposal has been approved.
4. The program will remain in the catalog until the fall after the proposal is approved.

CHECKLIST

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☒	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☒	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☒
☒	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☒	The title, department, and college names correspond to the current catalog.	☒
☒	The impacted departments, programs, the individuals notified, and the method of notification are listed.	☒
☒	Responses are complete and applicable for each question.	☑
☒	Students have ample time to finish all the required and elective courses in the teach-out plan.	☒
☒	The teach-out plan is inserted into the proposal.	☒
☒	Student impact numbers are official data obtained through Institutional Effectiveness.	☒
☒	The sample student notification letter is inserted into the proposal.	☒
☒	If this is a collaborative or joint program with another institution, the signed teach-out agreements with the other institution(s) are attached.	☒
☒	The entire proposal is saved as one Word document.	☒

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Ann M Macintosh — Ann M Macintosh — 8/29/19

Originator (Sign and Print) — Approval Date

Department Curriculum Committee Chair (Sign and Print) — 8/29/19 Approval Date

PROGRAM/TRACK/MINOR/CERTIFICATE

Deletion/Reinstatement for Program or Track or Minor or Certificate

This outline is to be followed for **program/track/minor/certificate** deletion or reinstatement.

☐ Program ☒ Track ☐ Minor ☐ Certificate	**Title:** (as listed in the current catalog)	Chemistry Major - Bachelor of Science - Track 2: Environmental Chemistry	
☒ **Deletion** – Program/Track/Minor/Certificate will be removed and cannot be reinstated. ☐ **Reinstatement** - brings back from suspension. Cannot be used if Program/Track/Minor/Certificate has been permanently deleted.			
CIP Code *Contact your department chair or associate dean to verify the correct CIP code information.* 40-0501			

TYPE OF ACTION

I. PROGRAM/TRACK/MINOR/CERTIFICATE DELETION

*For CPE reporting purposes, a deleted program will be marked as suspended for a minimum of 2 years and a maximum of 5 years to allow for the teach-out plan.

a. Proposed date students are no longer allowed to enroll (students must be allowed to enter the program until after the official closure date):	July 2020
b. Date all students must have completed the teach-out plan:	August 2024
c. Proposed final program/track/minor/certificate deletion date (Program closures and teach-out plans require approval by SACSCOC. The SACSOC approval date will determine the official date of closure):	August 2024

II. PROGRAM/TRACK/MINOR/CERTIFICATE REINSTATEMENT

*Program reinstatement must occur within the suspension period. Prior to submission, you must contact Undergraduate Education and Student Success to determine if reinstatement timelines can be met. All reinstatements must be approved at multiple levels, including SACSCOC. The change will be in effect the catalog year following the SACSCOC approval date.

a. Official suspension date for the program:	
b. Proposed date for reinstatement	

JUSTIFICATION

A. Why is the Program, Track, Minor, or Certificate being deleted or reinstated?

The Chemistry Major-Environmental Chemistry track is being eliminated due to a lack of student interest. Specifically, there have been no graduates in more than five years and Chemistry 332-Environmental Chemistry II, which is a required course in the environmental track, has not been offered since the spring of 2008 due to lack of student interest. Students interested in pursuing a career in environmental chemistry can still attain this goal by taking the chemistry major-general chemistry track and choosing a minor and chemistry electives, in consultation with their academic advisor, to acquire the necessary background.

B. List all departments and programs that could be impacted by this proposal. For example, any department or program that:

- **a. offers required courses for this program, track, minor, or certificate**
- **b. offers elective courses for this program**
- **c. offers similar courses in their program**
- **d. has an equated course**
- **e. has courses in this proposal listed as co-requisite or pre-requiste**
- **f. shares staff and/or resources.**

Dept. of Middle and Secondary Education - Secondary-Master of Arts inTeaching-Chemistry

C. Explain the potential impact on the other departments and programs.

The elimination of the environmental track will adversely affect the availability of Science 622- Chemistry and Your Environment (the graduate version of Chemistry 332), which has been taken to partially fulfill the content area requirement by

some students seeking an MAT in chemistry. This impact is expected to be extremely minimal; Science 622 has not been offered since 2010.

D. List the individuals in the other departments and programs notified by the proposing department and define the method of contact (e-mail, phone conversation, etc.)

Dr. April Miller, Chair of Dept. of Middle and Secondary Education (e-mail)

Your information in the sections E, F, and G below should include all students who have enrolled in the program in the last 5 years (even if they are not a current student). Please contact Institutional Effectiveness for official data.

E. How many students could be impacted?

According to data provided by the Office of Institutional Research and Analysis, there is only one student enrolled in the environmental chemistry track in the Spring of 2019.

F. What is the impact on students?

There will be very little impact on students. There have been no graduates in the environmental chemistry track for more than five years. Chemistry 332- Environmental Chemistry II, which is a required course for this track, has not been offered since 2008 due to a lack of student interest. Students can still pursue a career in environmental chemistry by taking the chemistry major-general chemistry track and choosing chemistry electives and a minor that provide the student with the necessary background.

G. What is the impact on enrollment?

a. University

b. Department

c. Program

According to the data provided by the Office of Institutional Research and Analysis, during the period from 2012FAYL to 2018 FA there was one student enrolled in the environmental track each year for a grand total of six. Of these six students one is still active in the Environmental Chemistry Track, one graduated with a BS in Biological Sciences, one graduated with a BBA in management, one graduated with a BS in Chemistry-General Chemistry Track, one withdrew without completeing a chemistry class and one student is currently active in Biological Sciences. There have been no graduates in the environmental chemistry track for more than five years. Additionally, students interested in pursuing a career in the area of environmental chemistry can still achieve this goal by taking the chemistry major-general chemistry track. Therefore, no impact on enrollment at the University, in the Department of Biology & Chemistry or in the chemsitry program is expected.

H. What is the impact on staffing:

There is no impact on staffing.

I. How will affected faculty and staff be informed of the impending reinstatement/closure?

Email

TEACH OUT PLAN – (Program closures and teach-out plans require approval by SACSCOC.)

A. Will the teach-out plan require students to incur additional expense? ☐ **Yes** ☒ **No**

If yes, please describe the additional expense, list how much additional expense, and identify how the students will be notified of the additional expense.

A. Please insert the teach-out plan.

There is currently only one student currently enrolled in the Chemistry Major – Bachelor of Science program – Track 2: Environmental Chemistry. The student is on schedule to complete their degree in in Spring 2021. All of the the classes that the student needs to graduate are offered on a regular basis with the exception of CHEM 332 Environmental Chemistry II. The student's academic advisor will work with the Chair of the Department of Biology & Chemistry to substitute another chemistry elective (300 level or higher) for CHEM 332.

Any student that registers in the 120 credit hour Chemistry Major – Environmental Chemistry - Bachelor of Science program before July 2019 must substitute CHEM 332 Environmental Chemistry II with any other Chemistry course above the 300 level that is not being applied for the required six credit hours of CHEM electives. This is due to the fact that CHEM 332 Environmental Chemistry II has not been taught at this institution for many years and will not be taught at this institution in the future. All other courses in the Chemistry Major – Environmental Chemistry - Bachelor of Science program remain unchanged and will be taught at this institution.

First Semester Courses (must be completed by end of Fall 2020):
FYS 101: First Year Seminar
ENG 100: Writing I
CHEM 111 Principles of Chemistry & CHEM 111L: Principles of Chemistry Laboratory (NSC 2 exchange)
Two General Education Electives, preferably a HUM 1 and SBS 1

Second Semester Courses: (must be completed by end of Spring 2021):
CHEM 112: Principles of Chemistry II & CHEM 112L: Principles of Chemistry II Lab
BIOL 171 Principles of Biology & BIOL 171L Principles of Biology Laboratory (NSC 1 exchange)
COMS 108: Fundamentals of Speech Communication
One General Education Elective, preferably SBS 2

Third Semester Courses: (must be completed by end of Fall 2021):
CHEM 326: Organic Chemistry I and CHEM 326L: Organic Chemistry I Laboratory
ENG 200: Writing II
PHYS 201: Elementary Physic I
PHYS 201A: Elementary Physics I Laboratory
Two General Education electives, preferably HUM 2 and MATH 174

Fourth Semester Courses: (must be completed by end of Spring 2022)
CHEM 327: Organic Chemistry II and CHEM 327: Organic Chemistry II Laboratory -or- BIOL 356: Conservation Biology -or- BIOL 357: Environmental Testing -or- BIOL 409: Limnology

CHEM 360: Analytical Chemistry and CHEM 360L: Analytical Chemistry Laboratory
PHYS 202: Elementary Physics II
PHYS 202A: Elementary Physic II Lab
One general elective or a course for the declared Minor (3 hrs)

Fifth Semester Courses: (must be completed by end of Fall 2022)
MATH 175: Calculus I
One biology course to meet the prerequisite for BIOL 461 (Note: This course would also count towards an integrated science minor.)
Two additional courses; either general electives or courses for the students declared minor

Six Semester Courses: (must be completed by end of Spring 2023)
CHEM 351: Bioinorganic Chemistry
One biology course to meet the prerequisite for BIOL 461 (Note: This course would also count towards an integrated science minor.)
three additional courses; either general electives or courses for the students declared minor (9 hrs)

Seventh Semester Courses: (must be completed by end of Fall 2023)
CHEM 441: Physical Chemistry
BIOL 461: Ecology and BIOL 461L: Ecology Laboratory
Three general electives or three courses for the declared Minor

Eighth Semester Courses (must be completed by end of Spring 2024)
CHEM Elective: (any CHEM course that is 300 or higher and approved by chemistry advisor) – replacement for CHEM 332.
CHEM 499E: Issues in Chemistry
Three to four general elective courses or three to four courses for the declared Minor

Students in the program will be strongly encourage to work with their academic advisor to build their schedules such that they will remain full time students and complete 30 credit hours of course work each academic year. Students in the Chemistry Major – Bachelor of Science program – Track 2: Environmental Chemistry program may substitute CHEM 499C: Chemistry Senior Project I and CHEM 499D: Chemistry Senior Project II for CHEM 499E: Issues in Chemistry.

B. You must notify all impacted students by U.S. Mail. Please insert a sample of the student notification letter.

Dear Student:

The Morehead State University Department of Biology and Chemsitry has decided to delete the Chemistry Major-Bachelor of Science-Environmental Chemistry Track due to a lack of student interest. Our records indicate that you are currently enrolled as a

Chemistry Major in the Environmental Chemsitry Track. You will be given until August of 2024 to complete your degree with a Chemsitry Major-Environmental Chemistry Track. Please contact your academic advisor as soon as possible to determine the sequence of courses that will allow you to complete the requirements for the Environmental Chemsitry Track in this time frame. The Department of Biology & Chemsitry will continue to offer all of the courses required for the Chemsitry Major-Environmental Chemistry Track on the same rotation as they have been offered in the past. Should unforseen difficulties arise with any of the courses continuing, your advisor can work with the Chair of Biology and Chemistry to substitute for those that are no longer offered.

Sincerely,

Ann M. Macintosh
Associate Professor of Chemistry
Department of Biology and Chemistry
Morehead State University

C. Is this a collaborative or joint program with another institution? ☐ Yes ☒ No
If so, please attach signed copies of the teach-out agreements with the other institution(s).

PROGRAM
Major Revision of Existing Program
Undergraduate Curriculum Routing Form
Revised January 2019

Program: (as listed in current catalog)	Computer Science Area – Bachelor of Science
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

If question E1 or E2 in section IV is answered yes, then you (the initiator) must have a representative from Information Technology (GH 201) sign the signature sheet before it is submitted to the department curriculum committee.

( ) Approved ( ) Disapproved

Information Technology Resources Are Available (Sign and Print) Date

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

partmental Curriculum Committee

Ahmad Zargari (✓) Approved ( ) Disapproved 9/20/19

Department Chair or Associate Dean (Sign and Print) Date

Terrence Chung (✓) Approved ( ) Disapproved 9/20/19

College Curriculum Committee (Sign and Print) Date

Gary Lowell (✓) Approved ( ) Disapproved 9/24/19

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if program is a secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L Couch (✓) Approved ( ) Disapproved 10/22/19

Undergraduate Curriculum Committee (Sign and Print) Date

(✓) Approved ( ) Disapproved 11-4-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Program: (as listed in current catalog)	Computer Science Area – Bachelor of Science
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

Helpful Information:

1. Important Definitions Used in the Curriculum Process
   - Area = a program of study comprised of at least 48 hours
   - Major = a program of study comprised of at least 30 hours, accompanied by a minor
   - Minor = a set of discipline-specific courses of at least 21 hours
   - Certificate = a series of courses related to a specific topic or skill with a prescribed number of hours. For additional information contact the Office of Academic Programs at 783-2003 or email undergraduate@moreheadstate.edu.
   - Core = a set of required courses taken by all students in a specific Area or Major
   - Track = a subset of courses within an area or major designed to develop expertise in a particular topic at the undergraduate level
   - Equated courses vs. cross-listed courses = equated courses are courses of identical content that have different prefixes (and are approved through the undergraduate curriculum process), whereas cross-listed courses have the same instructor and are offered at the same time/location.
   - Pre-requisite = course(s) that a student must successfully complete prior to registering for a more advanced course.
   - Co-requisite = course(s) that a student must take concurrently with another course.
2. An Associate's Degree normally requires at least 60 semester hours including 15 hours of prescribed general education credit.
3. A baccalaureate degree program at the undergraduate level is either an Area or a Major.
4. A program's total credit hours include program core (i.e., courses taken by all students in the program), program supplemental courses (other required hours), and program specific electives. No general education courses or free elective courses count toward total program hours.
5. Curriculum should be designed so that the program's total credit hours plus general education hours and free electives add up to 120 total hours, with 42 of the hours in upper division (i.e., 300- to 400-level) courses.
6. To ensure that students enrolled in a program have common experiences fifty percent (50%) of a program's total credit hours must be made up of core courses.
   Examples:
   a. If an Area is designed with 48 hours, then 24 or more of those hours must be in core courses. The rest of the program hours can be other program requirements that vary from student to student.
   b. If a Major is designed with 30 hours, then 15 or more of those hours must be in core courses. The remainder of the major hours can be other program supplemental courses and program specific electives that vary from student to student. The minor is not considered in calculations for this 50% rule.
   c. If a Major has 30 hours and includes tracks, the core must contain at least the same number (or

higher) of hours as the track. For example, a Major could have 15 hours in core, 9 hours in the track, and 6 hours as program electives.

- Any proposal with a secondary education component must be routed through the Teacher Education Council.

8. Edits to the proposal may be requested at any level of review. Such edits should be made by the originator of the proposal. The originator also may be asked to address questions (in writing or in person) at any level of review.

CHECKLIST

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If an Information Technology signature is required, it has been obtained.	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The title, department, and college names correspond to the current catalog.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed.	☑
☑	Responses are complete and applicable for each question.	☑
☑	Each course pre-fix, number, and title is consistent with the current undergraduate catalog (or with revisions made in supporting curriculum proposals).	☑
☑	Each course has been reviewed for pre-requisites, co-requisites or testing requirements. There are no hidden pre-requisites, co-requisites, or testing requirements.	☑
☑	The program core contains at least 50% of the total program hours (not including general education and free elective hours)	☑
☑	The program core does not contain courses that should be listed in other sections of the proposal (i.e. Other Program Required Hours, Program Electives, etc.).	☑
☑	The program has an adequate number of area/major hours (minimum of 48 for area and minimum 30 for major).	☑
☑	The program has at least 42 upper division hours.	☑
☑	If the program is a major, hours are designated for an accompanying minor.	☑
	If the program has tracks, the total track hours do not exceed the total core hours.	
☑	The program has a maximum of 120 hours. If not, sufficient rationale is included in the proposal.	☑
☑	The curriculum maps each start on a separate page.	☑
☑	The curriculum map contains the official name of the program and track (if applicable).	☑
☑	The curriculum map contains accurate course prefix, number, and name for each course.	☑
☑	The curriculum map lists General Education courses in the first two years.	☑

☑	If the program has tracks, a separate curriculum map is included for each track.	☑
☑	The curriculum map contains EXACTLY the same courses and the same number of credit-hours as the proposal.	☑
☑	The curriculum map does not contain hidden pre-requisites or co-requisites.	☑
☑	The curriculum map codes are accurate.	☑
☑	If the program has tracks, a separate curriculum map is included for each track.	☑
☑	The total credit hours for each semester are acceptable (full-time, not overload, etc.).	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Heba Elgazzar Heba Elgazzar Shiny Sheny Rashad 9/20/19

Originator (Sign and Print) Approval Date

Shiny Sheny Rashad 9/20/19

Department Curriculum Committee Chair (Sign and Print) Approval Date

PROGRAM
Major Revision of Existing Program

The outline below is to be used for program revisions. Each revised or new course included in this program requires a separate "New Course or Major Revision to Existing Course" proposal. *Note: an amended curriculum map must be attached to each "Major Revision of Existing Program" proposal.*

I. EXISTING PROGRAM REVISION

State the current title of the Program (as listed in the current catalog)

Computer Science Area – Bachelor of Science

List the degree (e.g. Bachelor of Science) **and major or area** (e.g. Math Major, Biology Area); **as listed in the current catalog. Include tracks if applicable** (e.g. Bachelor of Arts, Philosophy Major, Religious Studies Track).

Computer Science Area – Bachelor of Science (Computer Science General Track , Computer Gaming Track, Computer and Networking Security Track)

State the proposed revised title of the Program (if applicable)

If the degree (e.g. Bachelor of Science) **and/or major or area** (e.g. Math Major, Biology Area) **names are changing, please list them below. Include tracks if applicable.**

Computer Science Area – Bachelor of Science (Advanced Topics Track, Data Science Track, Cybersecurity Track, Computer Gaming Track, Computer Engineering Track)

CIP Code - ***Contact your department chair to verify the correct CIP Code information.***

11.0101

II. NEED AND JUSTIFICATON

A. Describe the changes and justify what this proposal is requesting; what are you doing and why are you doing it?

The CS faculty are revising the CS curriculum to be ready to align the degree program as appropriate with ABET requirements. Based on the students' needs and the change in the industry needs we are requesting the following revisions in order to better prepare our students to compete in the evolving field of Computer Science.

- Changing the requirements of the program core courses for the CS program:
  - o Core Courses:

• The following courses will be added to the core courses:

- ☐ CS 285 Programming in C# (new course)
- ☐ CS 385 Advanced Programming Methods (new course)
- ☐ CS 440 Parallel and Distributed Systems (new course)
- ☐ CS 372 Math for Gaming and Computer Science Applications (current course with minor revision)
- ☐ CS 340 Computer Architecture and Organization (no changes to this course)
- ☐ CS 480 Computer Security (no change to this course)

- The following courses will be removed from the core courses:
  - o CIS 426 Database Administration

• Adding a new course, CS 482 Digital Forensics. This course will be a required course for the Cybersecurity Track and an elective course for the CS major and all other tracks.

- Students have the option to choose from the following classes:

o Choose one of the following Mathematics courses:

- ☐ MATH 353 Statistics
- ☐ MATH 365 Introduction to Mathematical Statistics

o Choose two of the following Science courses:

- ☐ PHYS 201 Elementary Physics I with Lab (PHYS 201A) (required for Computer Gaming area)
- ☐ PHYS 202 Elementary Physics II with Lab (PHYS 202 A) (required for Computer Gaming area)
- ☐ CHEM 111 Principles of Chemistry I with Lab (CHEM 111L)
- ☐ CHEM 112 Principles of Chemistry II with Lab (CHEM 112L)
- ☐ BIOL 171 Principles of Biology with Lab (BIOL 171L)

- Changing the name of the Computer Science General Track to Advanced Topics Track.
  - Changing the name of and the Computer and Networking Security Track to Cybersecurity Track.
- Adding a new Data Science Track and Computer Engineering Track.
- Updating the required courses for each track by removing and adding courses.
- Updating the list of computer science elective courses by removing and adding courses.

B. Program *coherence* refers to 1) appropriate sequencing of courses, not a mere bundling of credits, so that 2) student learning is progressively more advanced in terms of assignments and scholarship required and 3) demonstrates progressive advancement in a field of study that allows students to integrate knowledge and grow in critical skills. The expectation that a program embodies a coherent course of study applies regardless of the mode of delivery. Describe any impacts to coherence that the proposed revision to the program may have.

There is no negative impact on the program coherence. The program has an appropriate sequence of courses and the student learning is progressively advanced. The program curriculum is designed to allow students to build and integrate knowledge and grow in critical thinking.

C. Have the admission requirements changed? If so, how?

No.

D. If a similar program at MSU or in Kentucky exists, provide justification for the duplication.

This is not a new program. It is a revision of an existing program. Every four-year institution needs to offer a Computer Science (CS) program. All other regional institutions in Kentucky have a CS program. The proposed revision will not affect other CS programs at other public universities in Kentucky. This CS program attracts new students from Morehead State University's service region.

III. PURPOSE, GOALS, AND OBJECTIVES

A. What are the goals and objectives of this proposal? How do the proposed changes impact the program's alignment with the program's mission and goals, and/or the University's mission and goals?

The goal of the Computer Science program is to offer undergraduate programs to prepare students to analyze and solve problems in various areas of Computer Science, to use technology as a problem-solving tool, and to communicate ideas learned in the field of Computer Science. The new changes in computer gaming, cybersecurity, and data science will support this goal.

Program Educational Objectives:

The Computer Science program aims to produce graduates who will:

1. have a firm and competitive foundation in Computer Science.
2. be able to function as productive members and leaders of software development teams or in any other computer science related capacity.
3. pursue life-long learning, continue to grow professionally, and be qualified to enter graduate studies in computer science.
4. demonstrate an understanding and awareness of societal and ethical issues in computing.

B. State the revised program outcomes or competencies to be achieved by students.

On graduation from the Computer Science program, our students will have an ability to:

1. Analyze a complex computing problem, and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

C. How do the specific goals and objectives relate to the mission statement of the University?

The CS program objectives are aligned to the University's objectives which foster innovation, collaboration and creative thinking; and serve our communities to improve the quality of life.

D. List the methods of program assessment to be used other than course grades to ensure that the desired outcomes or competencies are attained by students. Indicate the frequency of assessment and how results will be made available to program faculty.

The CS program assessment plan will be updated to be ready for ABET accreditaion. The program outcomes are updated in the 2018-2019 assessment plan to be align with ABET requirments. The program will be evaluated every year using the senior computer science capstone project and selected core courses. Assessment results will be available on WEAVE and they will be discussed in the faculty meetings.

E. List discipline-specific standards for accreditation in addition to Southern Association of Colleges and Schools (SACS) accreditation standards. If applicable, attach current statement of requirements.

The ABET student outcomes (Computing Accreditation Commission) :
Graduates of the program will have an ability to:
1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

IV. IMPACT

A. How will the program changes affect transfer students?

The changes will not affect transfer students.

B. List all departments and programs that could be impacted by this proposal. For example, any department or program that:

a. offers required courses for this program
b. offers elective courses for this program
c. offers similar courses in their program
d. has an equated course
e. has courses in this proposal listed as a co-requisite or pre-requisite
f. shares staff and/or resources.

- Information Systems program
- There is no potential impact on the other departments and programs.

C. Explain the potential impact on the other departments and programs.

- Information Systems program: CIS 426 was removed from the list of core courses.
- There is no potential impact on the other departments and programs.

D. List the individuals in the other departments and programs notified by the proposing department chair and define the method of contact (e-mail, phone conversation, etc.)

- Dr. Johnathan Nelson, Associate Dean of the School of Business Adminstraion, was notified by email.

E. Does this program revision require new technology? Please note that Information Technology (GH 110) should be notified when the program proposal is being developed. Early notification will allow IT an opportunity to provide quality information that can be included in the proposal request form.

☐ **Yes** ☒ **No** **(If yes, a representative from Information Technology must sign the signature sheet.)**

If yes, please list:

1. **the software to be used and its estimated cost. If there is intent to utilize the software in a lab, include the estimated cost of the server based license for the software. (IT does not install individual packages in labs, only server based versions).**

2. **the type of hardware to be utilized.**

V. PERSONNEL

A. List name(s), qualifications including highest earned degree, and academic rank(s) of departmental faculty who will teach courses in this program.

Heba Elgazzar, Ph.D. Computer Science and Engineering, Assistant Professor of Computer Science.
Sherif Rashad, Ph.D. Computer Science and Engineering, Professor of Computer Science.
Asim Chaudhry, M.Sc. Engineering and Technology Management, Instructor of Computer Science.

B. Identify external or adjunct faculty, if appropriate.

No external or adjunct faculty will be needed.

C. List any additional support personnel (clerical, laboratory assistants, and technicians) needed for implementation.

No additional support personel will be needed.

D. List additional faculty including academic rank and qualifications, who must be employed during the next four years if this is implemented.

None.

VI. ADDITIONAL INFORMATION

A. Identify the enrollment and number of graduates from this program for the past four years

Year	Enrollment	Number of Graduates
2015/2016	129	18
2016/2017	114	17
2017/2018	127	22
2018-2019	112	

B. List anticipated enrollment and number of graduates from this program for the next four years.

Year	Anticpated Enrollment	Anticpated Number of Graduates
2019/2020	130	15
2020/2021	135	20
2022/2023	140	22
2023/2024	145	24

C. Explain any additional or remodeled facilities that will be required.

No additional or remodeled facilities will be required

D. List any additional equipment required.

No additional equipment required.

E. Provide the estimated additional cost required to support this program for the next four years. Identify source of new funds (special legislative request, system reallocation, etc.).

No additional cost is required to support this program for the next four years.

VII. PROPOSED PROGRAM REQUIREMENTS

Please use the following template to list all Program courses. To create additional lines, tab while cursor is in the last "Course Hours" field.

Example of different types of entries. Not all programs, minors or certificates will have each type of entry.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
MSU	300	Name of course	3
MSU	400	Name of variable hour course	1-3
Variable		Free Electives	9

General Education

If the Program requires specific general education courses list them here. These courses should NOT have hours listed again in the Program requirements. (e.g. exchange courses, capstone, etc.) Remaining hours should be listed with "variable" as course prefix and "General Education" as course name with the total remaining general education hours in course hours.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
MATH	175	Calculus I	4
CS	499C	Capstone and Senior Thesis I (must have the CS prefix)	2
CS	499D	Capstone and Senior Thesis II (must have the CS prefix)	1
FYS	101	First Year Seminar	3
ENG	100	Writing I	3
General Education		HUM I	3
ENG	200	Writing II	3
General Education		HUM II	3
General Education		NSC I	3
General Education		SBS I	3
General Education		SBS II	3
General Education		NSC II	3
COMS	108	Fund. of Speech Communication	3

Total General Education Hours	37

Program Core Hours

Program Core courses must be taken by all students in the program. This section cannot contain options such as "MSU 111 or MSU 112" or "choose 3 hours from the following list". Any core Track hours should be listed in the Track section.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
CS	170	Introduction to Computer Science (must have the CS prefix)	4
CIS	205	Introduction to Programming – C++	3
CS	285	Programming in C#	3
CS	303	Data Structures	3
MATH	308	Discrete Mathematics	3
CS	310	Algorithms and Advanced Data Structures	3
CS	335	Theory of Programming Language	3
CS	340	Computer Architecture and organization	3

CS	360	Operating Systems	3
CS	372	Math for Gaming and Computer Science Applications	3
CS	380	Software Engineering	3
CS	385	Advanced Programming Methods	3
CS	440	Parallel and Distributed Systems	3
CS	480	Computer Security	3
MATH	275	Calculus II	4

Total Program Core Hours (This total should be at least 50% or more of the Total Program Hours; not including general education hours and free elective hours).	47

Other Program Required Hours

Other Program Required Hours are required program courses with the option of choosing between two specific courses (i.e. "MSU 111 or MSU 112"). Track hours should be listed in the Track section.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
Select one of the following courses:			
MATH	353	Statistics	3
MATH	365	Introduction to Mathematical Statistics	3

Total Other Program Required Hours	3

Program Electives

Program Electives are a list of required program-related courses from which a student chooses a specific number of hours. (e.g. "choose 3 hours from the following list"). Track electives should be listed in the Track section.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
Track electives are listed under the Track sections			

Total Program Elective Hours	-

Program Track Name: Advanced Topics Track

Please list all Track Requirements

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
CS	430	Machine Learning	3

Select 6 credit hours (two courses from the following list of courses):			**6**
CS	420	Data Mining Concepts	3
CS	470	Artificial Intelligence	3
CS	485	Network Security	3
CS	482	Digital Forensics	3
CS	172	Computer Games Concepts	3
CS	312	Game Prototype Design and Implementation	3
CS	472	Multiplayer Networking Game Programming	3
Select two of the following courses in consultation with advisor:			**8**
PHYS PHYS	201 and 201A	Elementary Physics I Elementary Physics I Lab	1 3
PHYS PHYS	202 and 202A	Elementary Physics II Elementary Physics II Lab	1 3
CHEM	111	Principles of Chemistry I with Lab (CHEM 111L)	4
CHEM	112	Principles of Chemistry II with Lab (CHEM 112L)	4
BIOL	171	Principles of Biology with Lab (BIOL 171L)	4
Track Electives:			
	Select 9 hours from the List of Elective Courses in consultation with advisor. 6 hours (two courses) must be from the CS prefix.		**9**

Total Track Hours	26

Program Track Name: Data Science Track

Please list all Track Requirements

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
CS	420	Data Mining Concepts	**3**
CS	430	Machine Learning	**3**
CS	470	Artificial Intelligence	**3**

Select two of the following courses in consultation with advisor:			**8**
PHYS PHYS	201 and 201A	Elementary Physics I Elementary Physics I Lab	1 3
PHYS PHYS	202 and 202A	Elementary Physics II Elementary Physics II Lab	1 3
CHEM	111	Principles of Chemistry I with Lab (CHEM 111L)	4
CHEM	112	Principles of Chemistry II with Lab (CHEM 112L)	4
BIOL	171	Principles of Biology with Lab (BIOL 171L)	4
Track Electives:			
	Select 9 hours from the List of Elective Courses in consultation with advisor. 6 hours (two courses) must be from the CS prefix.		**9**

Total Track Hours	26

Program Track Name: Cybersecurity Track

Please list all Track Requirements

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
CS	485	Network Security	**3**
CS	482	Digital Forensics	**3**
CS	420	Data Mining Concepts	**3**
Select two of the following courses in consultation with advisor:			**8**
PHYS PHYS	201 and 201A	Elementary Physics I Elementary Physics I Lab	1 3
PHYS PHYS	202 and 202A	Elementary Physics II Elementary Physics II Lab	1 3
CHEM	111	Principles of Chemistry I with Lab (CHEM 111L)	4
CHEM	112	Principles of Chemistry II with Lab (CHEM 112L)	4

BIOL	171	Principles of Biology with Lab (BIOL 171L)	4
Track Electives:			
	Select 9 hours from the List of Elective Courses in consultation with advisor. 6 hours (two courses) must be from the CS prefix.		9

Total Track Hours	26

Program Track Name: Computer Gaming Track

Please list all Track Requirements

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
CS	172	Computer Games Concepts	3
CS	312	Game Prototype Design and Implementation	3
CS	470	Artificial Intelligence	3
CS	472	Multiplayer Networking Game Programming	3
PHYS PHYS	201 and 201A	Elementary Physics I Elementary Physics I Lab	1 3
PHYS PHYS	202 and 202A	Elementary Physics II Elementary Physics II Lab	1 3
Track Electives:			
	Select 6 hours (two courses) from the List of Elective Courses with CS prefix in consultation with advisor (must be from the CS prefix.)		6

Total Track Hours	26

Program Track Name: Computer Engineering Track

Please list all Track Requirements

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
EEC	141	Fundamentals of Electric Circuits	3
EEC	241	Circuit Analysis	3
EEC	242	Principles of Electronic Communications	3
EEC	245	Digital Electronics	3
EEC	355	Digital and Microprocessor Systems	3
EEC	344	Wireless Communications	3
CS	430	Machine Learning	3

PHYS PHYS	201 and 201A	Elementary Physics I Elementary Physics I Lab	1 3
PHYS PHYS	202 and 202A	Elementary Physics II Elementary Physics II Lab	1 3
Track Electives:			
	Select 3 hours (one course) from the List of Elective Courses with CS prefix in consultation with advisor (must be from the CS prefix.)		3

Total Track Hours	32

Free Electives:

Free General Electives are any course hours still necessary to meet the 120 hour degree requirement after all program requirements are met.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours

Total Free Elective Hours	1 or 7

TOTAL DEGREE HOURS (Total degree hours should equal 120 or contain a rationale as to why it cannot).	120

Rationale as to why program exceeds 120 hours (if applicable):

If there is a change to the current catalog language for program competencies, admission criteria, standardized testing requirements, etc., please list the NEW catalog language below. Do not list the old catalog language. Do not list the program courses again.

The Computer Science program aspires to be a leading, nationally recognized, high-quality program to prepare graduates for a dynamic workforce and advanced professional studies. Our mission focuses on preparing graduates who have a firm understanding of the fundamentals of Computer Science and who have strong problem-solving skills to solve new problems by devising and implementing solutions and are prepared to pursue 21st Century careers in the diverse fields of Computer Science, and be able to pursue the graduate study in Computer Science at the graduate level.

Program Educational Objectives:
The Computer Science program aims to produce graduates who will:
1. have a firm and competitive foundation in Computer Science.
2. be able to function as productive members and leaders of software development teams or in any other computer science related capacity.
3. pursue life-long learning, continue to grow professionally, and be qualified to enter graduate studies in computer science.
4. demonstrate an understanding and awareness of societal and ethical issues in computing.

Student Learning Outcomes:
On graduation from the Computer Science program, our students will have an ability to:
1. Analyze a complex computing problem, and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

List of Elective Courses

Prefix	Number	Course Name	Hours
CS	172	Computer Games Concepts	3
CS	312	Game Prototype Design and Implementation	3
CS	412	Software Engineering for Computer Games	3
CS	420	Data Mining Concepts	3
CS	430	Machine Learning	3
CS	450	Computer Graphics	3
CS	460	Scientific and Parallel Computing	3
CS	470	Artificial Intelligence	3
CS	472	Multiplayer Networking Game Programming	3
CS	476	Special Problems	3
CS	485	Network Security	3
CS	482	Digital Forensics	3
CIS	314	Advanced Programming-Java	3
CIS	322	Systems Security and Information Assurance	3
CIS	326	Introduction to Databases	3
CIS	405	Web Development Strategies and E-commerce	3
CIS	442	Network Administration	3
EEC	345	Microprocessor Electronics	3
EEC	480	Digital Communication and Networking	3
MATH	320	Codes and Cryptography	3

Curriculum Map – (Computer Science Area- Bachelor of Science- Advanced Topics Track)

NOTE: If you are required to complete any developmental courses, you may not be able to complete the degree in four years. This curriculum map assumes that you have not transferred in any previously completed college level courses.

All students must have 36 hours of general education courses which include:

FYS – First Year Seminar
COMS 108 – Fund. Of Speech Communication
MATH 131, 135, 152, 174 or 175 - CORE Math
ENG 100 – Core Writing I
ENG 200 – Core Writing II
Capstone

One 3 credit hour course from each of the following categories

HUM I
HUM II
SBS I
SBS II
NSC I
NSC II

The approved course list may be accessed through the current MSU Undergraduate Catalog.

FIRST YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	FYS101 First Year Seminar	G	3		ENG 200 Writing II	G	3
	MATH 175 Calculus I	RG	4		MATH 275 Calculus II	R	4
	ENG 100 Writing I	G	3		HUM II General Education	G	3
	HUM I General Education	RG	3		CIS 205 Intro. to Programming C++	R	3
	CS 170 Introduction to Computer Science	R	4		COMS 108 Fund. Of Speech Communication	G	3
	Total Credit Hours		17		**Total Credit Hours**		16

SECOND YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	NSC I General Education	G	3		NSC II General Education	G	3
	CS 285 Programming in C#	R	3		SBS I General Education	G	3
	CS 303 Data Structures	RU	3		PHYS 202 Elementary Physics II	R	3
	PHYS 201 Elementary Physics I	R	3		PHYS 202 A Elementary Physics II Lab	R	1
	PHYS 201 A Elementary Physics I Lab	R	1		CS 310 Algorithms & Advanced Data Structure	RU	3
	SBS II General Education	G	3		MATH 308 Discrete Mathematics	RU	3
	Total Credit Hours		16		**Total Credit Hours**		16

THIRD YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	MATH 353 Statistics	RU	3		CS 360 Operating Systems	RU	3
	CS 372 Math for Gaming and Computer Science Applications	RU	3		CS 380 Software Engineering	RU	3
	CS 335 Theory of Programming Language	RU	3		CS 340 Computer Architecture and Organization	RU	3
	CS 385 Advanced Programming Methods	RU	3		Track Required Course	RU	3
	Free Elective	E	3				
	Total Credit Hours		15		**Total Credit Hours**		12

FOURTH YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	CS 499C Capstone & Senior Thesis I	RG	2		CS 499D Capstone & Senior Thesis II	RG	1
	CS 480 Computer Security	RU	3		Track Required Course	RU	3
	CS 430 Machine Learning	RU	3		CS 440 Parallel and Distributed Systems	RU	3
	CS Elective Refer to program evaluation	EU	3		CS Elective Refer to program evaluation	EU	3
	CS Elective Refer to program evaluation	EU	3		Free Elective	E	4
	Total Credit Hours		14		**Total Credit Hours**		14

(E) Elective
(G) General Education Course
(P) Pre-requisite
(R) Required Course
(U) Upper Division Course 300-400 level (you must have 42 hours)

Curriculum Map – (Computer Science Area- Bachelor of Science- Data Science Track)

NOTE: If you are required to complete any developmental courses, you may not be able to complete the degree in four years. This curriculum map assumes that you have not transferred in any previously completed college level courses.

All students must have 36 hours of general education courses which include:

FYS – First Year Seminar
COMS 108 – Fund. Of Speech Communication
MATH 131, 135, 152, 174 or 175 - CORE Math
ENG 100 – Core Writing I
ENG 200 – Core Writing II
Capstone

One 3 credit hour course from each of the following categories

HUM I
HUM II
SBS I
SBS II
NSC I
NSC II

The approved course list may be accessed through the current MSU Undergraduate Catalog.

FIRST YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	FYS101 First Year Seminar	G	3		ENG 200 Writing II	G	3
	MATH 175 Calculus I	RG	4		MATH 275 Calculus II	R	4
	ENG 100 Writing I	G	3		HUM II General Education	G	3
	HUM I General Education	RG	3		CIS 205 Intro. to Programming C++	R	3
	CS 170 Introduction to Computer Science	R	4		COMS 108 Fund. Of Speech Communication	G	3
	Total Credit Hours		17		**Total Credit Hours**		16

SECOND YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	NSC I General Education	G	3		NSC II General Education	G	3
	CS 285 Programming in C#	R	3		SBS I General Education	G	3
	CS 303 Data Structures	RU	3		PHYS 202 Elementary Physics II	R	3
	PHYS 201 Elementary Physics I	R	3		PHYS 202 A Elementary Physics II Lab	R	1
	PHYS 201 A Elementary Physics I Lab	R	1		CS 310 Algorithms & Advanced Data Structure	RU	3
	SBS II General Education	G	3		MATH 308 Discrete Mathematics	RU	3
	Total Credit Hours		16		**Total Credit Hours**		16

THIRD YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	MATH 353 Statistics	RU	3		CS 360 Operating Systems	RU	3
	CS 372 Math for Gaming and Computer Science Applications	RU	3		CS 380 Software Engineering	RU	3
	CS 335Theory of Programming Language	RU	3		CS 340 Computer Architecture and Organization	RU	3
	CS 385 Advanced Programming Methods	RU	3		CS 420 Data Mining Concepts	RU	3
	Free Elective	E	3				
	Total Credit Hours		15		**Total Credit Hours**		12

FOURTH YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	CS 499C Capstone & Senior Thesis I	RG	2		CS 499D Capstone & Senior Thesis II	RG	1
	CS 480 Computer Security	RU	3		CS 470 Artificial Intelligence	RU	3
	CS 430 Machine Learning	RU	3		CS 440 Parallel and Distributed Systems	RU	3
	CS Elective Refer to program evaluation	EU	3		CS Elective Refer to program evaluation	E	3
	CS Elective Refer to program evaluation	EU	3		Free Elective	E	4
	Total Credit Hours		14		**Total Credit Hours**		14

(E) Elective
(P) Pre-requisite
(U) Upper Division Course 300-400 level (you must have 42 hours)
(G) General Education Course
(R) Required Course

Curriculum Map – (Computer Science Area- Bachelor of Science- Cybersecurity Track)

NOTE: If you are required to complete any developmental courses, you may not be able to complete the degree in four years. This curriculum map assumes that you have not transferred in any previously completed college level courses.

All students must have 36 hours of general education courses which include:

FYS – First Year Seminar
COMS 108 – Fund. Of Speech Communication
MATH 131, 135, 152, 174 or 175 - CORE Math
ENG 100 – Core Writing I
ENG 200 – Core Writing II
Capstone

One 3 credit hour course from each of the following categories

HUM I	SBS I	NSC I
HUM II	SBS II	NSC II

The approved course list may be accessed through the current MSU Undergraduate Catalog.

FIRST YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits
	FYS101 First Year Seminar	G	3
	MATH 175 Calculus I	RG	4
	ENG 100 Writing I	G	3
	HUM I General Education	RG	3
	CS 170 Introduction to Computer Science	R	4
	Total Credit Hours		17

✓	Spring Semester	Code	Credits
	ENG 200 Writing II	G	3
	MATH 275 Calculus II	R	4
	HUM II General Education	G	3
	CIS 205 Intro. to Programming C++	R	3
	COMS 108 Fund. Of Speech Communication	G	3
	Total Credit Hours		16

SECOND YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits
	NSC I General Education	G	3
	CS 285 Programming in C#	R	3
	CS 303 Data Structures	RU	3
	PHYS 201 Elementary Physics I	R	3
	PHYS 201 A Elementary Physics I Lab	R	1
	SBS II General Education	G	3
	Total Credit Hours		16

✓	Spring Semester	Code	Credits
	NSC II General Education	G	3
	SBS I General Education	G	3
	PHYS 202 Elementary Physics II	R	3
	PHYS 202 A Elementary Physics II Lab	R	1
	CS 310 Algorithms & Advanced Data Structure	RU	3
	MATH 308 Discrete Mathematics	RU	3
	Total Credit Hours		16

THIRD YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits
	MATH 353 Statistics	RU	3
	CS 372 Math for Gaming and Computer Science Applications	RU	3
	CS 335Theory of Programming Language	RU	3
	CS 385 Advanced Programming Methods	RU	3
	Free Elective	E	3
	Total Credit Hours		15

✓	Spring Semester	Code	Credits
	CS 360 Operating Systems	RU	3
	CS 380 Software Engineering	RU	3
	CS 340 Computer Architecture and Organization	RU	3
	CS 420 Data Mining Concepts	RU	3
	Total Credit Hours		12

FOURTH YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits
	CS 499C Capstone & Senior Thesis I	RG	2
	CS 480 Computer Security	RU	3
	CS 482 Digital Forensics	RU	3
	CS Elective Refer to program evaluation	EU	3
	CS Elective Refer to program evaluation	EU	3
	Total Credit Hours		14

✓	Spring Semester	Code	Credits
	CS 499D Capstone & Senior Thesis II	RG	1
	CS 485 Network Security	RU	3
	CS 440 Parallel and Distributed Systems	RU	3
	CS Elective Refer to program evaluation	E	3
	Free Elective	E	4
	Total Credit Hours		14

(E) Elective
(G) General Education Course
(P) Pre-requisite
(R) Required Course
(U) Upper Division Course 300-400 level (you must have 42 hours)

Curriculum Map – (Computer Science Area- Bachelor of Science- Computer Gaming Track)

NOTE: If you are required to complete any developmental courses, you may not be able to complete the degree in four years. This curriculum map assumes that you have not transferred in any previously completed college level courses.

All students must have 36 hours of general education courses which include:

FYS – First Year Seminar
COMS 108 – Fund. Of Speech Communication
MATH 131, 135, 152, 174 or 175 - CORE Math
ENG 100 – Core Writing I
ENG 200 – Core Writing II
Capstone

One 3 credit hour course from each of the following categories

HUM I	SBS I	NSC I
HUM II	SBS II	NSC II

The approved course list may be accessed through the current MSU Undergraduate Catalog.

FIRST YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	FYS101 First Year Seminar	G	3		ENG 200 Writing II	G	3
	MATH 175 Calculus I	RG	4		MATH 275 Calculus II	R	4
	ENG 100 Writing I	G	3		HUM II General Education	G	3
	HUM I General Education	RG	3		CIS 205 Intro. to Programming C++	R	3
	CS 170 Introduction to Computer Science	R	4		COMS 108 Fund. Of Speech Communication	G	3
	Total Credit Hours		17		**Total Credit Hours**		16

SECOND YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	NSC I General Education	G	3		NSC II General Education	G	3
	CS 285 Programming in C#	R	3		SBS I General Education	G	3
	CS 303 Data Structures	RU	3		PHYS 202 Elementary Physics II	R	3
	PHYS 201 Elementary Physics I	R	3		PHYS 202 A Elementary Physics II Lab	R	1
	PHYS 201 A Elementary Physics I Lab	R	1		CS 310 Algorithms & Advanced Data Structure	RU	3
	SBS II General Education	G	3		MATH 308 Discrete Mathematics	RU	3
	Total Credit Hours		16		**Total Credit Hours**		16

THIRD YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	MATH 353 Statistics	RU	3		CS 360 Operating Systems	RU	3
	CS 372 Math for Gaming and Computer Science Applications	RU	3		CS 380 Software Engineering	RU	3
	CS 335Theory of Programming Language	RU	3		CS 340 Computer Architecture and Organization	RU	3
	CS 385 Advanced Programming Methods	RU	3		CS 172 Computer Games Concepts	R	3
	Free Elective	E	3				
	Total Credit Hours		15		**Total Credit Hours**		12

FOURTH YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	CS 499C Capstone & Senior Thesis I	RG	2		CS 499D Capstone & Senior Thesis II	RG	1
	CS 480 Computer Security	RU	3		CS 470 Artificial Intelligence	RU	3
	CS 312 Game Prototype Design and Implementation	RU	3		CS 440 Parallel and Distributed Systems	RU	3
	CS Elective Refer to program evaluation	EU	3		CS 472 Multiplayer Networking Game Programming	RU	3
	CS Elective Refer to program evaluation	EU	3		Free Elective	E	4
	Total Credit Hours		14		**Total Credit Hours**		14

(E) Elective
(G) General Education Course
(P) Pre-requisite
(R) Required Course
(U) Upper Division Course 300-400 level (you must have 42 hours)

Curriculum Map – (Computer Science Area- Bachelor of Science- Computer Engineering Track)

NOTE: If you are required to complete any developmental courses, you may not be able to complete the degree in four years. This curriculum map assumes that you have not transferred in any previously completed college level courses.

All students must have 36 hours of general education courses which include:

FYS – First Year Seminar
COMS 108 – Fund. Of Speech Communication
MATH 131, 135, 152, 174 or 175 - CORE Math
ENG 100 – Core Writing I
ENG 200 – Core Writing II
Capstone

One 3 credit hour course from each of the following categories

HUM I
HUM II
SBS I
SBS II
NSC I
NSC II

The approved course list may be accessed through the current MSU Undergraduate Catalog.

FIRST YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	FYS101 First Year Seminar	G	3		ENG 200 Writing II	G	3
	MATH 175 Calculus I	RG	4		MATH 275 Calculus II	R	4
	ENG 100 Writing I	G	3		HUM II General Education	G	3
	HUM I General Education	RG	3		CIS 205 Intro. to Programming C++	R	3
	CS 170 Introduction to Computer Science	R	4		COMS 108 Fund. Of Speech Communication	G	3
	Total Credit Hours		17		**Total Credit Hours**		16

SECOND YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	NSC I General Education	G	3		NSC II General Education	G	3
	CS 285 Programming in C#	R	3		SBS I General Education	G	3
	CS 303 Data Structures	RU	3		PHYS 202 Elementary Physics II	R	3
	PHYS 201 Elementary Physics I	R	3		PHYS 202 A Elementary Physics II Lab	R	1
	PHYS 201 A Elementary Physics I Lab	R	1		CS 310 Algorithms & Advanced Data Structure	RU	3
	SBS II General Education	G	3		MATH 308 Discrete Mathematics	RU	3
	Total Credit Hours		16		**Total Credit Hours**		16

THIRD YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	MATH 353 Statistics	RU	3		CS 360 Operating Systems	RU	3
	CS 372 Math for Gaming and Computer Science Applications	RU	3		CS 380 Software Engineering	RU	3
	CS 335Theory of Programming Language	RU	3		CS 340 Computer Architecture and Organization	RU	3
	CS 385 Advanced Programming Methods	RU	3		EEC 241 Circuit Analysis	R	3
	EEC 141 Fundamentals of Electric Circuits	R	3				
	Total Credit Hours		15		**Total Credit Hours**		12

FOURTH YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	CS 499C Capstone & Senior Thesis I	RG	2		CS 499D Capstone & Senior Thesis II	RG	1
	CS 480 Computer Security	RU	3		EEC 344 Wireless Communications (or EEC 400 Digital Signal Processing 1)	RU	3
	CS 430 Machine Learning	RU	3		CS 440 Parallel and Distributed Systems	RU	3
	EEC 245 Digital Electronics	R	3		EEC 355 Digital and Microprocessor Systems	RU	3
	EEC 242 Principles of Electronic Communications	R	3		CS Elective Refer to program evaluation	EU	3
					Free Elective	E	1
	Total Credit Hours		14		**Total Credit Hours**		14

(E) Elective
(G) General Education Course
(P) Pre-requisite
(R) Required Course
(U) Upper Division Course 300-400 level (you must have 42 hours)

REHEAD STATE UNIVERSITY

PROGRAM
Major Revision of Existing Program
Undergraduate Curriculum Routing Form

Revised January 2019

Program: (as listed in current catalog)	Computer Science Major – Bachelor of Science
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

If question E1 or E2 in section IV is answered yes, then you (the initiator) must have a representative from Information Technology (GH 201) sign the signature sheet before it is submitted to the department curriculum committee.

( ) Approved ( ) Disapproved

Information Technology Resources Are Available (Sign and Print) Date

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Ahmad Zargari (✓) Approved ( ) Disapproved 9/20/19

Department Chair or Associate Dean (Sign and Print) Date

Terry Chung (✓) Approved ( ) Disapproved 9/23/19

College Curriculum Committee (Sign and Print) Date

Greg Russell (✓) Approved ( ) Disapproved 9/24/19

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if program is a secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L. Conch (✓) Approved ( ) Disapproved 10/23/19

Undergraduate Curriculum Committee (Sign and Print) Date

(✓) Approved ( ) Disapproved 11-4-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Program: (as listed in current catalog)	Computer Science Major – Bachelor of Science
Department: (as listed in current catalog)	Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

Helpful Information:

1. Important Definitions Used in the Curriculum Process
   - Area = a program of study comprised of at least 48 hours
   - Major = a program of study comprised of at least 30 hours, accompanied by a minor
   - Minor = a set of discipline-specific courses of at least 21 hours
   - Certificate = a series of courses related to a specific topic or skill with a prescribed number of hours. For additional information contact the Office of Academic Programs at 783-2003 or email undergraduate@moreheadstate.edu.
   - Core = a set of required courses taken by all students in a specific Area or Major
   - Track = a subset of courses within an area or major designed to develop expertise in a particular topic at the undergraduate level
   - Equated courses vs. cross-listed courses = equated courses are courses of identical content that have different prefixes (and are approved through the undergraduate curriculum process), whereas cross-listed courses have the same instructor and are offered at the same time/location.
   - Pre-requisite = course(s) that a student must successfully complete prior to registering for a more advanced course.
   - Co-requisite = course(s) that a student must take concurrently with another course.
2. An Associate's Degree normally requires at least 60 semester hours including 15 hours of prescribed general education credit.
3. A baccalaureate degree program at the undergraduate level is either an Area or a Major.
4. A program's total credit hours include program core (i.e., courses taken by all students in the program), program supplemental courses (other required hours), and program specific electives. No general education courses or free elective courses count toward total program hours.
5. Curriculum should be designed so that the program's total credit hours plus general education hours and free electives add up to 120 total hours, with 42 of the hours in upper division (i.e., 300- to 400-level) courses.
6. To ensure that students enrolled in a program have common experiences fifty percent (50%) of a program's total credit hours must be made up of core courses.

   Examples:

   a. If an Area is designed with 48 hours, then 24 or more of those hours must be in core courses. The rest of the program hours can be other program requirements that vary from student to student.
   b. If a Major is designed with 30 hours, then 15 or more of those hours must be in core courses. The remainder of the major hours can be other program supplemental courses and program specific electives that vary from student to student. The minor is not considered in calculations for this 50% rule.
   c. If a Major has 30 hours and includes tracks, the core must contain at least the same number (or

higher) of hours as the track. For example, a Major could have 15 hours in core, 9 hours in the track, and 6 hours as program electives.

7. Any proposal with a secondary education component must be routed through the Teacher Education Council.

8. Edits to the proposal may be requested at any level of review. Such edits should be made by the originator of the proposal. The originator also may be asked to address questions (in writing or in person) at any level of review.

CHECKLIST

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If an Information Technology signature is required, it has been obtained.	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The title, department, and college names correspond to the current catalog.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed.	☑
☑	Responses are complete and applicable for each question.	☑
☑	Each course pre-fix, number, and title is consistent with the current undergraduate catalog (or with revisions made in supporting curriculum proposals).	☑
☑	Each course has been reviewed for pre-requisites, co-requisites or testing requirements. There are no hidden pre-requisites, co-requisites, or testing requirements.	☑
☑	The program core contains at least 50% of the total program hours (not including general education and free elective hours)	☑
☑	The program core does not contain courses that should be listed in other sections of the proposal (i.e. Other Program Required Hours, Program Electives, etc.).	☑
☑	The program has an adequate number of area/major hours (minimum of 48 for area and minimum 30 for major).	☑
☑	The program has at least 42 upper division hours.	☑
☑	If the program is a major, hours are designated for an accompanying minor.	☑
	If the program has tracks, the total track hours do not exceed the total core hours.	
☑	The program has a maximum of 120 hours. If not, sufficient rationale is included in the proposal.	☑
☑	The curriculum maps each start on a separate page.	☑
☑	The curriculum map contains the official name of the program and track (if applicable).	☑
☑	The curriculum map contains accurate course prefix, number, and name for each course.	☑
☑	The curriculum map lists General Education courses in the first two years.	☑

☑	If the program has tracks, a separate curriculum map is included for each track.	☑
☑	The curriculum map contains EXACTLY the same courses and the same number of credit-hours as the proposal.	☑
☑	The curriculum map does not contain hidden pre-requisites or co-requisites.	☑
☑	The curriculum map codes are accurate.	☑
☑	If the program has tracks, a separate curriculum map is included for each track.	☑
☑	The total credit hours for each semester are acceptable (full-time, not overload, etc.).	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Heba Elgazzar Heba Elgazzar Sherif Sherif Rashad 9/20/19

Originator (Sign and Print) Approval Date

Sherif Sherif Rashad 9/20/19

Department Curriculum Committee Chair (Sign and Print) Approval Date

PROGRAM
Major Revision of Existing Program

The outline below is to be used for program revisions. Each revised or new course included in this program requires a separate "New Course or Major Revision to Existing Course" proposal. *Note: an amended curriculum map must be attached to each "Major Revision of Existing Program" proposal.*

I. EXISTING PROGRAM REVISION

State the current title of the Program (as listed in the current catalog)

Computer Science Major – Bachelor of Science

List the degree (e.g. Bachelor of Science) and major or area (e.g. Math Major, Biology Area); as listed in the current catalog. Include tracks if applicable (e.g. Bachelor of Arts, Philosophy Major, Religious Studies Track).

Computer Science Major – Bachelor of Science

State the proposed revised title of the Program (if applicable)

If the degree (e.g. Bachelor of Science) and/or major or area (e.g. Math Major, Biology Area) names are changing, please list them below. Include tracks if applicable.

CIP Code - ***Contact your department chair to verify the correct CIP Code information.***

11.0101

II. NEED AND JUSTIFICATON

A. Describe the changes and justify what this proposal is requesting; what are you doing and why are you doing it?

The CS faculty are revising the CS curriculum to be ready to align the degree program as appropriate with ABET requirements. Based on the students' needs and the change in the industry needs we are requesting the following revisions in order to better prepare our students to compete in the evolving field of Computer Science.

- Changing the requirements of the program core courses for the CS program:

o Core Courses:

• The following courses will be added to the core courses:

- CS 285 Programming in C# (new course)
- CS 385 Advanced Programming Methods (new course)
- CS 440 Parallel and Distributed Systems (new course)
- CS 372 Math for Gaming and Computer Science Applications (current course with minor revision)
- CS 340 Computer Architecture and Organization (no changes to this course)
- CS 480 Computer Security (no change to this course)

• Adding a new course, CS 482 Digital Forensics. This course will be a required course for the Cybersecurity Track and an elective course for the CS major and all other tracks.

- Students have the option to choose from the following classes:

o Choose one of the following Mathematics courses:

- MATH 353 Statistics
- MATH 365 Introduction to Mathematical Statistics

- Updating the list of computer science elective courses by removing and adding courses.

B. Program *coherence* refers to 1) appropriate sequencing of courses, not a mere bundling of credits, so that 2) student learning is progressively more advanced in terms of assignments and scholarship required and 3) demonstrates progressive advancement in a field of study that allows students to integrate knowledge and grow in critical skills. The expectation that a program embodies a coherent course of study applies regardless of the mode of delivery. Describe any impacts to

coherence that the proposed revision to the program may have.

There is no negative impact on the program coherence. The program has an appropriate sequence of courses and the student learning is progressively advanced. The program curriculum is designed to allow students to build and integrate knowledge and grow in critical thinking.

C. Have the admission requirements changed? If so, how?

No.

D. If a similar program at MSU or in Kentucky exists, provide justification for the duplication.

This is not a new program. It is a revision of an existing program. Every four-year institution needs to offer a Computer Science (CS) program. All other regional institutions in Kentucky have a CS program. The proposed revision will not affect other CS programs at other public universities in Kentucky. This CS program attracts new students from Morehead State University's service region.

III. PURPOSE, GOALS, AND OBJECTIVES

A. What are the goals and objectives of this proposal? How do the proposed changes impact the program's alignment with the program's mission and goals, and/or the University's mission and goals?

The goal of the Computer Science program is to offer undergraduate programs to prepare students to analyze and solve problems in various areas of Computer Science, to use technology as a problem-solving tool, and to communicate ideas learned in the field of Computer Science. The new changes in the Computer Science Major will support this goal.

Program Educational Objectives:
The Computer Science program aims to produce graduates who will:
1. have a firm and competitive foundation in Computer Science.
2. be able to function as productive members and leaders of software development teams or in any other computer science related capacity.
3. pursue life-long learning, continue to grow professionally, and be qualified to enter graduate studies in computer science.
4. demonstrate an understanding and awareness of societal and ethical issues in computing.

B. State the revised program outcomes or competencies to be achieved by students.

On graduation from the Computer Science program, our students will have an ability to:
1. Analyze a complex computing problem, and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

C. How do the specific goals and objectives relate to the mission statement of the University?

The CS program objectives are aligned to the University's objectives which foster innovation, collaboration and creative thinking; and serve our communities to improve the quality of life.

D. List the methods of program assessment to be used other than course grades to ensure that the desired outcomes or competencies are attained by students. Indicate the frequency of assessment and how results will be made available to program faculty.

The CS program assessment plan will be updated to be ready for ABET accreditaion. The program outcomes are updated in the 2018-2019 assessment plan to be align with ABET requirments. The program will be evaluated every year using the senior computer science capstone project and selected core courses. Assessment results will be available on WEAVE and they will be discussed in the faculty meetings.

E. List discipline-specific standards for accreditation in addition to Southern Association of Colleges and Schools (SACS) accreditation standards. If applicable, attach current statement of requirements.

The ABET student outcomes (Computing Accreditation Commission) :
Graduates of the program will have an ability to:
1. Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

IV. IMPACT

A. How will the program changes affect transfer students?

The changes will not affect transfer students.

B. List all departments and programs that could be impacted by this proposal. For example, any department or program that:

a. offers required courses for this program
b. offers elective courses for this program
c. offers similar courses in their program
d. has an equated course
e. has courses in this proposal listed as a co-requisite or pre-requisite
f. shares staff and/or resources.

There is no potential impact on the other departments and programs.

C. Explain the potential impact on the other departments and programs.

There is no potential impact on the other departments and programs.

D. List the individuals in the other departments and programs notified by the proposing department chair and define the method of contact (e-mail, phone conversation, etc.)

NA

E. Does this program revision require new technology? Please note that Information Technology (GH 110) should be notified when the program proposal is being developed. Early notification will allow IT an opportunity to provide quality information that can be included in the proposal request form.

☐ **Yes** ☒ **No** **(If yes, a representative from Information Technology must sign the signature sheet.)**

If yes, please list:

1. the software to be used and its estimated cost. If there is intent to utilize the software in a lab, include the estimated cost of the server based license for the software. (IT does not install individual packages in labs, only server based versions).

2. the type of hardware to be utilized.

V. PERSONNEL

A. List name(s), qualifications including highest earned degree, and academic rank(s) of departmental faculty who will teach courses in this program.

Heba Elgazzar, Ph.D. Computer Science and Engineering, Assistant Professor of Computer Science.
Sherif Rashad, Ph.D. Computer Science and Engineering, Professor of Computer Science.
Asim Chaudhry, M.Sc. Engineering and Technology Management, Instructor of Computer Science.

B. Identify external or adjunct faculty, if appropriate.

No external or adjunct faculty will be needed.

C. List any additional support personnel (clerical, laboratory assistants, and technicians) needed for implementation.

No additional support personel will be needed.

D. List additional faculty including academic rank and qualifications, who must be employed during the next four years if this is implemented.

None.

VI. ADDITIONAL INFORMATION

A. Identify the enrollment and number of graduates from this program for the past four years

Year	Enrollment	Number of Graduates
2015/2016	129	18
2016/2017	114	17
2017/2018	127	22
2018-2019	112	

B. List anticipated enrollment and number of graduates from this program for the next four years.

Year	Anticpated Enrollment	Anticpated Number of Graduates
2019/2020	130	15
2020/2021	135	20
2022/2023	140	22
2023/2024	145	24

C. Explain any additional or remodeled facilities that will be required.

No additional or remodeled facilities will be required.

D. List any additional equipment required.

No additional equipment required.

E. Provide the estimated additional cost required to support this program for the next four years. Identify source of new funds (special legislative request, system reallocation, etc.).

No additional cost is required to support this program for the next four years.

VII. PROPOSED PROGRAM REQUIREMENTS

Please use the following template to list all Program courses. To create additional lines, tab while cursor is in the last "Course Hours" field.

Example of different types of entries. Not all programs, minors or certificates will have each type of entry.

Course Prefix (Example:	Number (Example: 100)	Course Name	Course Hours

ENG)			
MSU	300	Name of course	3
MSU	400	Name of variable hour course	1-3
Variable		Free Electives	9

General Education

If the Program requires specific general education courses list them here. These courses should NOT have hours listed again in the Program requirements. (e.g. exchange courses, capstone, etc.) Remaining hours should be listed with "variable" as course prefix and "General Education" as course name with the total remaining general education hours in course hours.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
MATH	175	Calculus I	4
CS	499C	Capstone and Senior Thesis I	2
CS	499D	Capstone and Senior Thesis II	1
FYS	101	First Year Seminar	3
ENG	100	Writing I	3
General Education		HUM I	3
ENG	200	Writing II	3
General Education		HUM II	3
General Education		NSC I	3
General Education		SBS I	3
General Education		SBS II	3
General Education		NSC II	3
COMS	108	Fund. of Speech Communication	3

Total General Education Hours	37

Program Core Hours

Program Core courses must be taken by all students in the program. This section cannot contain options such as "MSU 111 or MSU 112" or "choose 3 hours from the following list". Any core Track hours should be listed in the Track section.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
CS	170	Introduction to Computer Science (must have the CS prefix)	4
CIS	205	Introduction to Programming – C++	3
CS	285	Programming in C#	3
CS	303	Data Structures	3
MATH	308	Discrete Mathematics	3
CS	310	Algorithms and Advanced Data Structures	3
CS	335	Theory of Programming Language	3
CS	340	Computer Architecture and organization	3
CS	360	Operating Systems	3
CS	372	Math for Gaming and Computer Science Applications	3
CS	380	Software Engineering	3
CS	385	Advanced Programming Methods	3
CS	440	Parallel and Distributed Systems	3
CS	480	Computer Security	3
MATH	275	Calculus II	4

Total Program Core Hours (This total should be at least 50% or more of the Total Program Hours; not including general education hours and free elective hours).	47

Other Program Required Hours

Other Program Required Hours are required program courses with the option of choosing between two specific courses (i.e. "MSU 111 or MSU 112"). Track hours should be listed in the Track section.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
Select one of the following courses:			
MATH	353	Statistics	3
MATH	365	Introduction to Mathematical Statistics	3

Total Other Program Required Hours	3

Program Electives

Program Electives are a list of required program-related courses from which a student chooses a specific number of hours. (e.g. "choose 3 hours from the following list"). Track electives should be listed in the Track section.

Course Prefix (Example:	Number (Example: 100)	Course Name	Course Hours

ENG)			

Select 9 hours from the following in consultation with advisor (6 hours (two courses) must be from the CS prefix)			
CS	172	Computer Games Concepts	3
CS	312	Game Prototype Design and Implementation	3
CS	412	Software Engineering for Computer Games	3
CS	420	Data Mining Concepts	3
CS	430	Machine Learning	3
CS	450	Computer Graphics	3
CS	460	Scientific and Parallel Computing	3
CS	470	Artificial Intelligence	3
CS	472	Multiplayer Networking Game Programming	3
CS	476	Special Problems	3
CS	485	Network Security	3
CS	482	Digital Forensics	3
CIS	314	Advanced Programming-Java	3
CIS	322	Systems Security and Information Assurance	3
CIS	326	Introduction to Databases	3
CIS	405	Web Development Strategies and E-commerce	3
CIS	442	Network Administration	3
EEC	345	Microprocessor Electronics	3
EEC	480	Digital Communication and Networking	3
MATH	320	Codes and Cryptography	3

Total Program Elective Hours	9

IF YOUR PROGRAM DOES NOT HAVE TRACKS, PLEASE PROCEED TO THE FREE ELECTIVE SECTION BELOW.

***Please note: If you need more than two tracks, please contact *undergraduate@moreheadstate.edu* so that the forms can be revised to fit your needs.**

Program Track Name:			
Please list all Track Requirements			
Course Prefix (Example: ENG)	**Number (Example: 100)**	**Course Name**	**Course Hours**

Total Track Hours	

Program Track Name:			
Please list all Track Requirements			
Course Prefix (Example: ENG)	**Number (Example: 100)**	**Course Name**	**Course Hours**

Total Track Hours	

Free Electives:			
Free General Electives are any course hours still necessary to meet the 120 hour degree requirement after all program requirements are met.			
Course Prefix (Example: ENG)	**Number (Example: 100)**	**Course Name**	**Course Hours**

Total Free Elective Hours	3

TOTAL DEGREE HOURS (Total degree hours should equal 120 or contain a rationale as to why it cannot).	120 (including 21 Course Hours of a selected Minor)

Rationale as to why program exceeds 120 hours (if applicable):

If there is a change to the current catalog language for program competencies, admission criteria, standardized testing requirements, etc., please list the NEW catalog language below. Do not list the old catalog language. Do not list the program courses again.

The Computer Science program aspires to be a leading, nationally recognized, high-quality program to prepare graduates for a dynamic workforce and advanced professional studies. Our mission focuses on preparing graduates who have a firm understanding of the fundamentals of Computer Science and who have strong problem-solving skills to solve new problems by devising and implementing solutions and are prepared to pursue 21st Century careers in the diverse fields of Computer Science, and be able to pursue the graduate study in Computer Science at the graduate level.

Program Educational Objectives:
The Computer Science program aims to produce graduates who will:
1. have a firm and competitive foundation in Computer Science.
2. be able to function as productive members and leaders of software development teams or in any other computer science related capacity.
3. pursue life-long learning, continue to grow professionally, and be qualified to enter graduate studies in computer science.
4. demonstrate an understanding and awareness of societal and ethical issues in computing.

Student Learning Outcomes:
On graduation from the Computer Science program, our students will have an ability to:

1. Analyze a complex computing problem, and to apply principles of computing and other relevant disciplines to identify solutions.
2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
3. Communicate effectively in a variety of professional contexts.
4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. Apply computer science theory and software development fundamentals to produce computing-based solutions.

Curriculum Map – (Computer Science Major-Bachelor of Science)

NOTE: If you are required to complete any developmental courses, you may not be able to complete the degree in four years. This curriculum map assumes that you have not transferred in any previously completed college level courses.

All students must have 36 hours of general education courses which include:

FYS – First Year Seminar
COMS 108 – Fund. Of Speech Communication
MATH 131, 135, 152, 174 or 175 - CORE Math
ENG 100 – Core Writing I
ENG 200 – Core Writing II
Capstone

One 3 credit hour course from each of the following categories

HUM I	SBS I	NSC I
HUM II	SBS II	NSC II

The approved course list may be accessed through the current MSU Undergraduate Catalog.

FIRST YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	FYS101 First Year Seminar	G	3		ENG 200 Writing II	G	3
	MATH 175 Calculus I	RG	4		MATH 275 Calculus II	R	4
	ENG 100 Writing I	G	3		HUM II General Education	G	3
	HUM I General Education	G	3		COMS 108 Fund. Of Speech Communication	G	3
	CS 170 Introduction to Computer Science	R	4		CIS 205 Intro. to Programming C++	R	3
	Total Credit Hours		17		**Total Credit Hours**		16

SECOND YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	NSC I General Education	G	3		NSC II General Education	G	3
	CS 285 Programming in C#	R	3		SBS I General Education	G	3
	CS 303 Data Structures	RU	3		CS 310 Algorithms & Advanced Data Structure	RU	3
	SBS II General Education	G	3		MATH 308 Discrete Mathematics	RU	3
	Minor Requirement	R	3		Minor Requirement	R	3
	Total Credit Hours		15		**Total Credit Hours**		15

THIRD YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	MATH 353 Statistics	RU	3		CS 360 Operating Systems	RU	3
	CS 335 Theory of Programming Language	RU	3		CS 380 Software Engineering	RU	3
	CS 372 Math for Gaming and Computer Science Applications	RU	3		CS 340 Computer Architecture and Organization	RU	3
	CS 385 Advanced Programming Methods	RU	3		Minor Requirement	R	3
	Minor Requirement	R	3		Free Elective	E	3
	Total Credit Hours		15		**Total Credit Hours**		15

FOURTH YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	CS 499C Capstone & Senior Thesis I	RG	2		CS 499D Capstone & Senior Thesis II	RG	1
	CS 480 Computer Security	RU	3		CS 440 Parallel and Distributed Systems	RU	3
	Minor Requirement	R	3		Minor Requirement	R	3
	CS Elective Refer to program evaluation	EU	3		Minor Requirement	R	3
	CS Elective Refer to program evaluation	EU	3		CS Elective Refer to program evaluation	EU	3
	Total Credit Hours		14		**Total Credit Hours**		13

(E) Elective (G) General Education Course
(P) Pre-requisite (R) Required Course
(U) Upper Division Course 300-400 level (you must have 42 hours)

COURSE
New Course or Major Revision to Existing Course
Undergraduate Curriculum Routing Form
Revised April 2019

This is a ☒ **New Course** ☐ **Revised Course**

Course: (if revision, as listed in current catalog)	Programming in C#, CS 285, (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

If question F1 or F2 in section V is answered yes, then you (the initiator) must have a representative from Information Technology (GH 201) sign the signature sheet before it is submitted to the department curriculum committee.

( ) Approved ( ) Disapproved

Information Technology Resources Are Available (Sign and Print) Date

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Ahmad Zargari (✓) Approved ( ) Disapproved 9/20/19

Department Chair or Associate Dean (Sign and Print) Date

Terre Johnny (✓) Approved ( ) Disapproved 9/23/19

College Curriculum Committee (Sign and Print) Date

Greg Russell (✓) Approved ( ) Disapproved 9/24/19

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if the course is required in any secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L. Couch-Lauriel Couch (✓) Approved ( ) Disapproved 10/23/19

Undergraduate Curriculum Committee (Sign and Print) Date

(✓) Approved ( ) Disapproved 11-4-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Course: (as listed in current catalog)	Programming in C#, CS 285, (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If an Information Technology signature is required, it has been obtained.	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The course title, department, and college names correspond to the current catalog.	☑
☑	Course teaching workload, formula, and semesters taught are specified.	☑
☑	The course description EXACTLY matches the course description stated in the syllabus.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed. Impact is defined as any program or department that requires the course, offers the course as an elective, offers a similar course, has an equated course, has the course listed as a co-requisite or pre-requisite, shares staff and/or resources.	☑
☑	Responses are complete and applicable for each question.	☑
☑	If the course requires the use of live animals, the IACUC form is attached.	☑
☑	The syllabus starts on a separate page.	☑
☑	The syllabus contains a heading to reflect "Morehead State University" as well as college, school, and/or department.	☑
☑	The syllabus contains the course title and course number (exactly as listed in the proposal).	☑
☑	The syllabus contains the academic term with date.	☑
☑	The syllabus contains the instructor's name.	☑
☑	The syllabus contains the office location.	☑

☑	The syllabus contains the instructor's office phone number and office hours schedule.
☐	The syllabus contains the email address and URL for the instructor's personal web site, if applicable.
☑	The syllabus contains the revised course description and it exactly matches the course description on the proposal. If there is no revision to the course description, it exactly matches the course description in the current catalog.
☑	The syllabus contains the intended student learning outcomes related to program objectives as specified in the catalog.
☑	The syllabus contains the methods by which the achievement of each student learning outcome listed on the syllabus will be measured. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; or 2. Students will complete an exam; objective test.
☑	The syllabus contains a week by week or day by day course calendar with specific content, assignments and/or exams highlighted.
☑	The syllabus contains a grading description and distribution (please be very specific).
☑	The syllabus contains a course attendance policy (please be very specific and ensure compliance with UAR 131.04).
☑	The syllabus contains the following Campus Safety Statement: **Campus Safety Statement** Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: http://www.moreheadstate.edu/emergency/
☑	The syllabus contains the following academic honesty policy: **Academic honesty:** All students at Morehead State University are required to abide by accepted standards of academic honesty. Academic honesty includes doing one's own work, giving credit for the work of others, and using resources appropriately. Guidelines for dealing with acts of academic dishonesty can be found in the academic catalog.
☑	The syllabus contains the following policy for accommodating students with disabilities: **Americans with Disabilities Act (ADA)** Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188 or e.day@moreheadstate.edu or visit their website at www.moreheadstate.edu/disability.
☑	The entire proposal is saved as one Word document.

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Heba Elgazzar Heba Elgazzar — 9/20/19

Originator (Sign and Print) — Approval Date

Sherif Sherif Rashad — 9/20/19

Department Curriculum Committee Chair (Sign and Print) — Approval Date

COURSE

New Course or Major Revision to Existing Course

This outline is to be used when a new course is proposed or when a major change is proposed to an existing course. If you are preparing a *new* experimental course/workshop proposal, please use the New Experimental Course/Workshop form. This outline is not to be used for General Education Courses. Refer to the General Education web site.

I. COURSE INFORMATION

- The course title should only be 30 characters.
- The following are definitions of terms related to courses:
  - **Petition required** – requires permission from the Department Chair to enroll in a section of the course.
  - **Equated** – two different courses with the same content at the same level with different prefixes.
  - **Restricted** – program admission is required and/or must have Department Chair approval.
  - **Formula** – (3-0-3) = instruction hours – lab hours – credit hours

This is a ☐ **New Course** ☐ **Revised Course**

	Course prefix (Example: ENG)	Number (Example: 100)	Title (Example: Writing I)	Formula (Example: 3-0-3)	Faculty Load (Contact your Department Chair or Dean's Office for assistance)	Intended Terms Offered (Example: Fall/Spring)
Course Name (as listed in the current catalog)						
Proposed Course Name	Course prefix (Example: ENG)	Number (Example: 100)	Title (Example: Writing I)	Formula (Example: 3-0-3)	Faculty Load (Contact your Department Chair or Dean's Office for assistance)	Intended Terms Offered (Example: Fall/Spring)
	CS	285	Programming in C#	(3,0,3)	3	Fall

Approved major or program(s) in which the course will be offered. (as listed in the current catalog)
Computer Science

This is a ☒ **required course. This is an** ☐ **elective course.**

Course Description	Course description ***exactly as it will appear in the catalog and as it appears on the sample syllabus.*** Include pre-requisites/co-requisites, petition requirements, course equations, restrictions and term(s) offered. Example: XYZ 288. Guidelines for a New Course. (3-0-3) Fall and Spring; petition required. A study of the impact of technology on individuals, society, and the environment. Equated with ABC 288.

CS 285. Programming in C#. (3-0-3) Fall; Pre-requisites: CS 170 or ETM 110 or CIS 200. This course covers the fundamentals of object oriented programming in C# and uisng the .NET framework. Topics include C# language, advanced object- oriented programming concepts, windows programming, and event driven programming.

II. PURPOSE, GOALS AND OBJECTIVES

A. What are the goals and objectives of the proposal? Explain why you are proposing a new course or why and how you are revising a current course.

This course focuses on the fundamentals of programming in C# and using the .NET framework which are widely used in developing large-scale software applications. The students will learn in this course concepts related to advanced topics in object-oriented programming and windows programming. This will help students to design and implement advanced software applications in the next level of CS classes.

B. Justify the proposed instructional level (100-600) or instructional level change.

This course will be classified as a 200-level and CS 170 is required as a prerequisite. This course assumes that the students have previous programming skills in one of the high-level programming languages which is provided in CS 170.

C. List the student learning outcomes for the course.

- Develop high-quality programming skills in C#
- Understand the fundamentals of using the .NET framework
- Apply advanced object-oriented programming skills to implement software projects
- Develop advanced skills in windows programming

- Develop the ability to analyze, observe, model, and validate

D. Describe how those student learning outcomes will be assessed. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; **or** 2. Students will complete an exam; objective test.

1. Students will complete programming assignments; scored by rubrics.
2. Students will implement projects; scored by rubrics.
3. Students will complete exams; objective tests.

E. Define how the course helps students to achieve learning objectives required for the program.

This course will provide the computer science students with powerful programming skills they need to develop computer programs. These skills are important for software developers and professional programmers. The students will be able to design and implement advanced software applications. This supports the program educational objectives of having a firm and competitive foundation in Computer Science and being able to function as productive members of software development teams.

F. Explain how the specific goals and objectives of the course relate to the mission statement of the University.

This proposed course offers a quality higher education opportunity and foster creative thinking for students pursing degrees in computer science. The course will provide the students with the required knowledge and skills they need to work in the field of computer science after graduation towards the goal of being successful in a global environment.

III. IMPACT

A. List any existing course(s) that will be replaced by the proposed/revised course.

This course does not replace any existing course.

B. List other courses now offered at MSU that will have duplication or overlap. Explain the degree to which the course duplicates or overlaps and provide justification for the duplication or overlap.

This course does not duplicate or overlap any existing course at MSU.

C. List departments and programs that could be impacted by this proposal. For example, any department that:

a. requires the course
b. offers the course as an elective
c. offers a similar course
d. has an equated course
e. has the course listed as a co-requisite or pre-requisite
f. shares staff and/or resources

There is no impact on the other departments and programs.

D. List each of the individuals notified by the proposing department chair and define the method of contact (e-mail, phone conversation, etc.)

NA

IV. PERSONNEL

A. List names, qualifications including the highest earned degree, and academic rank(s), of faculty available to MSU who will teach the course.

Heba Elgazzar, Ph.D. Computer Science and Engineering, Assistant Professor of Computer Science.
Sherif Rashad, Ph.D. Computer Science and Engineering, Professor of Computer Science.
Asim Chaudhry, M.Sc. Engineering and Technology Management, Instructor of Computer Science.

B. Identify external adjunct faculty, if appropriate.

None.

V. ADDITIONAL INFORMATION

A. Desired section size and anticipated enrollment.

29 students /section

B. Desired implementation date for the course.

Fall 2020

C. Method of instruction (online, lecture, laboratory, individualized, etc.).
Lectures with Hands-on activities

D. Additional facilities and special equipment needs for this course, if any.
None.

E. Use of library resources
It is recommended that you contact a library liaison prior to completing this section to determine what resources and services are available to support the course.

- **Does the course require library resources to support specific class assignments or supplemental reading?** ☒ **Yes** ☐ **No**
- **Do the library services and resources presently available meet student needs for the course?** ☒ **Yes** ☐ **No**

If not, what library acquisitions are being proposed to meet essential needs?

F. Does this course require new technology?
Please note that Information Technology (GH 110) should be notified when the course proposal is being developed. Early notification will allow IT an opportunity to provide quality information that can be included in the proposal request form.

☐ **Yes** (If yes, you must have a representative from Information Technology review the proposal and sign the signature sheet.)

☒ **No**

If yes, please list:

1. **the software to be used and its estimated cost. If there is intent to utilize the software in a lab, include the estimated cost of the server-based license for the software. (IT does not install individual packages in labs, only server-based versions).**

2. **the type of hardware to be utilized.**

Note: Students will use the current computer workstations and programming environments to write and run computer programs. These workstations and programming environments are already provided in the computer laboratories at the School of Engineering and Computer Science.

G. Does this course involve the use of live animals? ☐ **Yes** ☒ No

If so, include the approval form from the associated Institutional Animal Care and Use Committee (IACUC).

H. Please include a sample syllabus (must start on new page). *All elements on the syllabus checklist must be included on the sample syllabus* (syllabus checklist attached).

- Proposals for all Teacher Education courses (including content courses that typically have 50% more teacher preparation majors enrolled) are required to go to the Teacher Education Committee as part of the curriculum approval process
- The teacher education syllabi must contain these elements: the theme for MSU's Teacher Education Program; CAEP* themes; any additional EPSB themes; and program appropriate Kentucky Teacher Standards (www.kyepsb.net/teacherprep/standards.asp). Further information and models are provided at http://www.moreheadstate.edu/education/.
- *The College of Education (CoE) is NCATE accredited. NCATE and TEAC have combined to form CAEP, a new national accrediting organization. Educator Preparation Programs, including the CoE at MSU are in the process of transitioning from NCATE to CAEP and as such, we are working to transition to align our programs with CAEP standards and requirements in anticipation of our next accreditation visit in 2018, at which time we will fall fully under CAEP standards and guidelines. For more information on CAEP and the new accreditation process, please see www.caepnet.org.

MOREHEAD STATE
UNIVERSITY
ELMER R. SMITH COLLEGE OF
BUSINESS & TECHNOLOGY

Morehead State University
Elmer R. Smith College of Business and Technology
School of Engineering and Computer Science
Department of Computer Science and Electronics

Programming in C#
CS 285
Fall 2020

Instructor: Heba Elgazzar **Office:** LCB 105A
Phone: (606) 783-2412 **Email:** h.elgazzar@moreheadstate.edu

Office Hours:

Class Meeting Time and Place:

Blackboard:

The course materials for this course will be available on Blackboard http://moreheadstate.blackboard.com. The Blackboard will contain the course syllabus, PowerPoint slides, class announcements, assignments, due dates, and other information for the course.

Course Description:

CS 285. Programming in C#. (3-0-3) Fall; Pre-requisites: CS 170 or ETM 110 or CIS 200. This course covers the fundamentals of object oriented programming in C# and uisng the .NET framework. Topics include C# language, advanced object- oriented programming concepts, windows programming, and event driven programming.

Students Learning Outcomes:

- Develop high-quality programming skills in C#
- Understand the fundamentals of using the .NET framework
- Apply advanced object-oriented programming skills to implement software projects
- Develop advanced skills in windows programming
- Develop the ability to analyze, observe, model, and validate

Assignment Description and Distribution:

Programming in C# (CS 285 – 001)	
Assessment (percentage)	**Description**
Programming and Project Assignments (35 %)	These assignments will apply to course lectures.
Quizzes (15 %)	Quizzes will apply to course lectures.
Exam I (15%)	This exam will apply to course lectures.
Exam II (15 %)	This exam will apply to course lectures.
Final Exam (20 %)	This exam will apply to course lectures.

Extracurricular Activities

Participating in ACM meetings, and attending talks are ways of expanding your knowledge of computer science. You can obtain up to 2% as extra credit by participating in meetings, talks, or activities announced. To receive credit, you need to sign the ACM sign-up sheet at each event. To receive 2% extra credit a student needs to attend all ACM meetings. Otherwise he/she will receive partial of the extra credit.

Grading Scale:

The grading scale is as follows:

100-90.00 = A, 89.99-80.00 = B, 79.99-70.00 = C, 69.99-60.00 = D, and 59.99-0 = E.

Textbook:

C# Programming: From Problem Analysis to Program Design, by Barbara Doyle, 5th Edition, Cengage Learning.

Attendance Policy:

Attendance at class meetings and lab sessions is required in this class. If a student has to miss a lecture or lab session, it is the student's sole responsibility to become up to date with the material covered in class. If you miss an exam due to illness, health problems, emergencies, or a University excused absence, as identified in the UAR 131.05 policy, you have to provide necessary documentation to substantiate your excuse and to have the opportunity to make up work missed in a fair and equitable manner without any reduction in the final grade as a direct result of such absence. If you anticipate missing an exam you have to make arrangements with the instructor prior to the exam date. In compliance with UAR 131.05, regardless of the nature of the excused absence, the student is responsible for opening a line of communication with the instructor and completing all coursework according to the terms agreed upon between the instructor and the student. It is the responsibility of the student to request an opportunity to complete missed work following an absence and this request should be made to the instructor no later than the next class session. Once an excuse has been granted for the absence, all missed work must be completed within the time frame agreed upon between the student and the instructor in order for the student to receive full credit.

Academic Honesty

Cheating, fabrication, plagiarism or helping others to commit these acts will not be tolerated. Academic dishonesty will result in severe disciplinary action including, but not limited to, failure of the student assessment item or course, and/ or dismissal from MSU. If you are not sure what constitutes academic dishonesty, read the Eagle: Student Handbook or ask your instructor. An example of plagiarism is copying information from the

internet when appropriate credit is not given. The policy is located at: http://morehead-st.edu/units/studentlife/handbook/academicdishonesty.html.

Americans with Disabilities Act (ADA):

Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188, e.day@moreheadstate.edu, or visit their website at www.moreheadstate.edu/disability for more information.

Campus Safety Statement

Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: http://www.moreheadstate.edu/emergency.

CS 285 – 001
Spring 2021 2019 Tentative Weekly Schedule*

Week #	Topic	Readings
1	Introduction to C# and .Net	CH 1
2	Introduction to C# and .Net	CH 1
3	Data Types and Expressions	CH 2
4	Methods and Behaviors	CH 3
5	Methods and Behaviors	CH 3
6	Classes and Object-Oriented Programming	CH 4
7	Classes and Object-Oriented Programming	CH 4
8	Making Decisions	CH 5
9	Making Decisions	CH 5
10	Loops	CH 6
11	Loops	CH 6
12	Arrays	CH 7
13	GUI and Windows Programming	CH 9
14	GUI and Windows Programming	CH 9

15	Introduction to event driven programming	
16	Advanced Object-Oriented Programming Features	

*The instructor reserves the right to alter this tentative schedule as circumstances may dictate. Changes will be announced in the class. It is the student's responsibility to obtain information pertaining to changes in this schedule that are announced when he/she is absent from class.

COURSE

Minor Revision to an Existing Course
Undergraduate Curriculum Routing Form

Revised January 2018

Course (as listed in current catalog)	Math for Computer Games, CS 372 (3,0,3)
Department (as listed in current catalog)	Department of Computer Science and Electronics
College (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Ahmad Zargari — (✓) Approved ( ) Disapproved — 9/20/19

partment Chair or Associate Dean (Sign and Print) — Date

(✓) Approved ( ) Disapproved — 9/23/19

College Curriculum Committee (Sign and Print) — Date

(✓) Approved ( ) Disapproved — 9/24/19

Dean (Sign and Print) — Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if the course is required in any secondary education program) (Sign and Print) — Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L. Conch — (✓) Approved ( ) Disapproved — 10/23/19

Undergraduate Curriculum Committee (Sign and Print) — Date

(✓) Approved ( ) Disapproved — 11-4-19

Vice President for Academic Affairs (Sign and Print) — Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Course: (as listed in current catalog)	Math for Computer Games, CS 372 (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		**Department Curriculum Committee Chair**
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The course title, department, and college names correspond to the current catalog.	☑
☑	Course teaching workload, formula, and semesters taught are specified.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed. Impact is defined as any program or department that requires the course, offers the course as an elective, offers a similar course, has an equated course, has the course listed as a co-requisite or pre-requisite, shares staff and/or resources.	☑
☑	Responses are complete and applicable for each question.	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Sheri Sheri Rashad — 9/20/19

Originator (Sign and Print) — Approval Date

Sheri Sheri Rashad — 9/20/19

Department Curriculum Committee Chair (Sign and Print) — Approval Date

COURSE
Minor Revision to an Existing Course

Use this outline to report a minor modification of a previously approved course and to equate a *current* course with a new course. Minor revisions include title, prefix, course number, catalog course description, and admission requirements (test scores, pre-requisites, or co-requisites). ***Minor changes do not modify course content or the course formula.*** If the course content or formula is to be modified, use the New Course or Major Revision to Existing Course Form. Terms offered should be consistent with the curriculum map.

I. COURSE

Current Course Name: (as listed in the current catalog)	**Course prefix (Example: ENG)**	**Number (Example: 100)**	**Title (Example: Writing I)**	**Faculty Load**	**Formula (Example: 3-0-3)**	**Intended Terms Offered (Example: Fall/Spring)**
	CS	372	Math for Computer Games	3	3-0-3	Spring
Proposed Course Name:	**Course prefix (Example: ENG)**	**Number (Example: 100)**	**Title (Example: Writing I)**	**Faculty Load**	**Formula (Example: 3-0-3)**	**Intended Terms Offered (Example: Fall/Spring)**
	CS	372	Math for Gaming and Computer Science Applications	3	3-0-3	Fall

II. EXPLANATION

A. Describe the change and justify what this proposal is requesting; what are you doing and why are you doing it? Content will be listed at the end of the document.

This is a minor revision of the course title and description since this course will be a required course for all CS students in the revised curriculum. There is no change in the course content. The prerequisite of the course is revised to require the new programming course in C#, CS 285, as a prerequisite instead of CS 312. This will enable all CS students to better understand how to use mathematical concepts to implement computer games and computer science applications.

B. List all other departments and programs that could be impacted by this proposal. For example, any department or program that:

- **a. requires the course**
- **b. offers the course as an elective**
- **c. offers a similar course**
- **d. has an equated course**
- **e. has the course listed as a co-requisite or pre-requisite**
- **f. shares staff and/or resources**

- There is no impact on the other departments and programs.

C. Explain the potential impact on the other departments and programs.

- There is no impact on the other departments and programs.

D. List each of the individuals in the other departments and programs notified by the proposing department and define the method of contact (e-mail, phone conversation, etc.)

NA

III. ADDITIONAL INFORMATION

A. If this is a change that effects the current MSU Undergraduate Catalog content, please provide the copy that is to appear in the next catalog revision.

CS 372. Math for Gaming and Computer Science Applications. (3-0-3) Fall; Prerequisites: Math 175 and CS 285. This course will cover mathematical topics including Geometry, Trigonometry, Vector Operations, Matrix Operations, Transformation and Motion in two and three dimensions in the context of how they are used for video game development and computer science applications. Students will use mathematical concepts to design and implement computer games and computer science applications.

COURSE
New Course or Major Revision to Existing Course
Undergraduate Curriculum Routing Form
Revised April 2019

This is a ☒ **New Course** ☐ **Revised Course**

Course: (if revision, as listed in current catalog)	Advanced Programming Methods, CS 385, (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

If question F1 or F2 in section V is answered yes, then you (the initiator) must have a representative from Information Technology (GH 201) sign the signature sheet before it is submitted to the department curriculum committee.

( ) Approved ( ) Disapproved

Information Technology Resources Are Available (Sign and Print) Date

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Ahmad Zargari AHMAD ZARGARI (✓) Approved ( ) Disapproved 9/20/19

Department Chair or Associate Dean (Sign and Print) Date

Laurie Conch (✓) Approved ( ) Disapproved 9/23/19

College Curriculum Committee (Sign and Print) Date

Oleg Prokhorov (✓) Approved ( ) Disapproved 9/24/19

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if the course is required in any secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L. Conch Laurie LConch (✓) Approved ( ) Disapproved 10/23/19

Undergraduate Curriculum Committee (Sign and Print) Date

(✓) Approved ( ) Disapproved 11-4-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Course: (as listed in current catalog)	Advanced Programming Methods, CS 385, (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If an Information Technology signature is required, it has been obtained.	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The course title, department, and college names correspond to the current catalog.	☑
☑	Course teaching workload, formula, and semesters taught are specified.	☑
☑	The course description EXACTLY matches the course description stated in the syllabus.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed. Impact is defined as any program or department that requires the course, offers the course as an elective, offers a similar course, has an equated course, has the course listed as a co-requisite or pre-requisite, shares staff and/or resources.	☑
☑	Responses are complete and applicable for each question.	☑
☑	If the course requires the use of live animals, the IACUC form is attached.	☑
☑	The syllabus starts on a separate page.	☑
☑	The syllabus contains a heading to reflect "Morehead State University" as well as college, school, and/or department.	☑
☑	The syllabus contains the course title and course number (exactly as listed in the proposal).	☑
☑	The syllabus contains the academic term with date.	☑
☑	The syllabus contains the instructor's name.	☑
☑	The syllabus contains the office location.	☑

☑	The syllabus contains the instructor's office phone number and office hours schedule.	☑
☑	The syllabus contains the email address and URL for the instructor's personal web site, if applicable.	☑
☑	The syllabus contains the revised course description and it exactly matches the course description on the proposal. If there is no revision to the course description, it exactly matches the course description in the current catalog.	☑
☑	The syllabus contains the intended student learning outcomes related to program objectives as specified in the catalog.	☑
☑	The syllabus contains the methods by which the achievement of each student learning outcome listed on the syllabus will be measured. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; or 2. Students will complete an exam; objective test.	☑
☑	The syllabus contains a week by week or day by day course calendar with specific content, assignments and/or exams highlighted.	☑
☑	The syllabus contains a grading description and distribution (please be very specific).	☑
☑	The syllabus contains a course attendance policy (please be very specific and ensure compliance with UAR 131.04).	☑
☑	The syllabus contains the following Campus Safety Statement: **Campus Safety Statement** Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: http://www.moreheadstate.edu/emergency/	☑
☑	The syllabus contains the following academic honesty policy: **Academic honesty:** All students at Morehead State University are required to abide by accepted standards of academic honesty. Academic honesty includes doing one's own work, giving credit for the work of others, and using resources appropriately. Guidelines for dealing with acts of academic dishonesty can be found in the academic catalog.	☑
☑	The syllabus contains the following policy for accommodating students with disabilities: **Americans with Disabilities Act (ADA)** Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188 or e.day@moreheadstate.edu or visit their website at www.moreheadstate.edu/disability.	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Heba Elgazzar Heba Elgazzar 9/20/19

Originator (Sign and Print) Approval Date

Sheri Sheri Rashad 9/20/19

Department Curriculum Committee Chair (Sign and Print) Approval Date

COURSE

New Course or Major Revision to Existing Course

This outline is to be used when a new course is proposed or when a major change is proposed to an existing course. If you are preparing a *new* experimental course/workshop proposal, please use the New Experimental Course/Workshop form. This outline is not to be used for General Education Courses. Refer to the General Education web site.

I. COURSE INFORMATION

- The course title should only be 30 characters.
- The following are definitions of terms related to courses:
  - **Petition required** – requires permission from the Department Chair to enroll in a section of the course.
  - **Equated** – two different courses with the same content at the same level with different prefixes.
  - **Restricted** – program admission is required and/or must have Department Chair approval.
  - **Formula** – (3-0-3) = instruction hours – lab hours – credit hours

This is a ☐ **New Course** ☐ **Revised Course**

	Course prefix (Example: ENG)	Number (Example: 100)	Title (Example: Writing I)	Formula (Example: 3-0-3)	Faculty Load (Contact your Department Chair or Dean's Office for assistance)	Intended Terms Offered (Example: Fall/Spring)
Course Name (as listed in the current catalog)						
Proposed Course Name	CS	385	Advanced Programming Methods	(3,0,3)	3	Fall

Approved major or program(s) in which the course will be offered. (as listed in the current catalog)
Computer Science

This is a ☒ **required course. This is an** ☐ **elective course.**

Course Description	Course description ***exactly as it will appear in the catalog and as it appears on the sample syllabus.*** Include pre-requisites/co-requisites, petition requirements, course equations, restrictions and term(s) offered. Example: XYZ 288. Guidelines for a New Course. (3-0-3) Fall and Spring; petition required. A study of the impact of technology on individuals, society, and the environment. Equated with ABC 288.

CS 385. Advanced Programming Methods. (3-0-3) Fall; Pre-requisites: CS 285. This course covers advanced high performance object-oriented programming with a focus on large-scale programming projects and complex programming paradigms. Topics include generic programming, programming with dynamic objects, advanced use of exceptions, delegates, design patterns, advanced GUI programming, managing memory and non-memory resources effectively, emerging database technologies and database applications, web-based applications, and cross-platform applications development.

II. PURPOSE, GOALS AND OBJECTIVES

A. What are the goals and objectives of the proposal? Explain why you are proposing a new course or why and how you are revising a current course.

This course focuses on high performance object-oriented programming and large-scale programming using one of the object oriented programming languages such as C#. Students will learn in this course advanced topics related to advanced GUI programming, advanced use of exceptions, delegates, design patterns, and advanced object-oriented design. Students will learn how to design and implement advanced software applications.

B. Justify the proposed instructional level (100-600) or instructional level change.

This course will be classified as a 300-level and CS 285 is required as a prerequisite. This course assumes that the students have previous programming skills in objected oriented programming of which is provided in CS 285.

C. List the student learning outcomes for the course.

- Apply advanced programming methods to implement large-scale software projects
- Develop skills in advanced high performance object-oriented programming and

- Develop advanced skills in generic programming and programming with dynamic objects
- Advanced use of exceptions, delegates, design patterns, and advanced GUI programming
- Develop the ability to analyze, observe, model, and validate

D. Describe how those student learning outcomes will be assessed. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; **or** 2. Students will complete an exam; objective test.

1. Students will complete programming assignments; scored by rubrics.
2. Students will implement projects; scored by rubrics.
3. Students will complete exams; objective tests.

E. Define how the course helps students to achieve learning objectives required for the program.

This course will provide the computer science students with powerful programming skills they need to develop computer programs. These skills are important for software developers and professional programmers. The students will be able to design and implement advanced software applications. This supports the program educational objectives of having a firm and competitive foundation in Computer Science and being able to function as productive members of software development teams.

F. Explain how the specific goals and objectives of the course relate to the mission statement of the University.

This proposed course offers a quality higher education opportunity and foster creative thinking for students pursing degrees in computer science. The course will provide the students with the required knowledge and skills they need to work in the field of computer science after graduation towards the goal of being successful in a global environment.

III. IMPACT

A. List any existing course(s) that will be replaced by the proposed/revised course.

This course does not replace any existing course.

B. List other courses now offered at MSU that will have duplication or overlap. Explain the degree to which the course duplicates or overlaps and provide justification for the duplication or overlap.

This course does not duplicate or overlap any existing course at MSU.

C. List departments and programs that could be impacted by this proposal. For example, any department that:

a. requires the course
b. offers the course as an elective
c. offers a similar course
d. has an equated course
e. has the course listed as a co-requisite or pre-requisite
f. shares staff and/or resources

There is no impact on the other departments and programs.

D. List each of the individuals notified by the proposing department chair and define the method of contact (e-mail, phone conversation, etc.)

NA

IV. PERSONNEL

A. List names, qualifications including the highest earned degree, and academic rank(s), of faculty available to MSU who will teach the course.

Heba Elgazzar, Ph.D. Computer Science and Engineering, Assistant Professor of Computer Science.
Sherif Rashad, Ph.D. Computer Science and Engineering, Professor of Computer Science.
Asim Chaudhry, M.Sc. Engineering and Technology Management, Instructor of Computer Science.

B. Identify external adjunct faculty, if appropriate.

None.

V. ADDITIONAL INFORMATION

A. Desired section size and anticipated enrollment.

29 students /section

B. Desired implementation date for the course.

Fall 2020

C. Method of instruction (online, lecture, laboratory, individualized, etc.).
Lectures with Hands-on activities

D. Additional facilities and special equipment needs for this course, if any.
None.

E. Use of library resources
It is recommended that you contact a library liaison prior to completing this section to determine what resources and services are available to support the course.

- **Does the course require library resources to support specific class assignments or supplemental reading?** ☒ **Yes** ☐ **No**
- **Do the library services and resources presently available meet student needs for the course?** ☒ **Yes** ☐ **No**

If not, what library acquisitions are being proposed to meet essential needs?

F. Does this course require new technology?
Please note that Information Technology (GH 110) should be notified when the course proposal is being developed. Early notification will allow IT an opportunity to provide quality information that can be included in the proposal request form.

☐ **Yes** (If yes, you must have a representative from Information Technology review the proposal and sign the signature sheet.)

☒ **No**

If yes, please list:

1. **the software to be used and its estimated cost. If there is intent to utilize the software in a lab, include the estimated cost of the server-based license for the software. (IT does not install individual packages in labs, only server-based versions).**

2. **the type of hardware to be utilized.**

Note: Students will use the current computer workstations and programming environments to write and run computer programs. These workstations and programming environments are already provided in the computer laboratories at the School of Engineering and Computer Science.

G. Does this course involve the use of live animals? ☐ **Yes** ☒ No

If so, include the approval form from the associated Institutional Animal Care and Use Committee (IACUC).

H. Please include a sample syllabus (must start on new page). *All elements on the syllabus checklist must be included on the sample syllabus* (syllabus checklist attached).

- Proposals for all Teacher Education courses (including content courses that typically have 50% more teacher preparation majors enrolled) are required to go to the Teacher Education Committee as part of the curriculum approval process
- The teacher education syllabi must contain these elements: the theme for MSU's Teacher Education Program; CAEP* themes; any additional EPSB themes; and program appropriate Kentucky Teacher Standards (www.kyepsb.net/teacherprep/standards.asp). Further information and models are provided at http://www.moreheadstate.edu/education/.
- *The College of Education (CoE) is NCATE accredited. NCATE and TEAC have combined to form CAEP, a new national accrediting organization. Educator Preparation Programs, including the CoE at MSU are in the process of transitioning from NCATE to CAEP and as such, we are working to transition to align our programs with CAEP standards and requirements in anticipation of our next accreditation visit in 2018, at which time we will fall fully under CAEP standards and guidelines. For more information on CAEP and the new accreditation process, please see www.caepnet.org.

MOREHEAD STATE UNIVERSITY
ELMER R. SMITH COLLEGE OF BUSINESS & TECHNOLOGY

Morehead State University
Elmer R. Smith College of Business and Technology
School of Engineering and Computer Science

Advanced Programming Methods
CS 385
Fall 2020

Instructor: Heba Elgazzar **Office:** LCB 301
Phone: (606) 783-2412 **Email:** h.elgazzar@moreheadstate.edu

Office Hours:

Class Meeting Time and Place:

Blackboard:

The course materials for this course will be available on Blackboard http://moreheadstate.blackboard.com. The Blackboard will contain the course syllabus, PowerPoint slides, class announcements, assignments, due dates, and other information for the course.

Course Description:

CS 385. Advanced Programming Methods. (3-0-3) Fall; Pre-requisites: CS 285. This course covers advanced high performance object-oriented programming with a focus on large-scale programming projects and complex programming paradigms. Topics include generic programming, programming with dynamic objects, advanced use of exceptions, delegates, design patterns, advanced GUI programming, managing memory and non-memory resources effectively, emerging database technologies and database applications, web-based applications, and cross-platform applications development.

Students Learning Outcomes:

- Apply advanced programming methods to implement large-scale software projects
- Develop skills in advanced high performance object-oriented programming and
- Develop advanced skills in generic programming and programming with dynamic objects
- Advanced use of exceptions, delegates, design patterns, and advanced GUI programming
- Develop the ability to analyze, observe, model, and validate

Assignment Description and Distribution:

Advanced Programming Methods (CS 385 – 001)	
Assessment (percentage)	**Description**
Programming and Project Assignments (35 %)	These assignments will apply to course lectures.
Quizzes (15 %)	Quizzes will apply to course lectures.
Exam I (15%)	This exam will apply to course lectures.
Exam II (15 %)	This exam will apply to course lectures.
Final Exam (20 %)	This exam will apply to course lectures.

Extracurricular Activities

Participating in ACM meetings, and attending talks are ways of expanding your knowledge of computer science. You can obtain up to 2% as extra credit by participating in meetings, talks, or activities announced. To receive credit, you need to sign the ACM sign-up sheet at each event. To receive 2% extra credit a student needs to attend all ACM meetings. Otherwise he/she will receive partial of the extra credit.

Grading Scale:

The grading scale is as follows:

100-90.00 = A, 89.99-80.00 = B, 79.99-70.00 = C, 69.99-60.00 = D, and 59.99-0 = E.

Textbook:

C# Programming: From Problem Analysis to Program Design, by Barbara Doyle, 5th Edition, Cengage Learning.

Attendance Policy:

Attendance at class meetings and lab sessions is required in this class. If a student has to miss a lecture or lab session, it is the student's sole responsibility to become up to date with the material covered in class. If you miss an exam due to illness, health problems, emergencies, or a University excused absence, as identified in the UAR 131.05 policy, you have to provide necessary documentation to substantiate your excuse and to have the opportunity to make up work missed in a fair and equitable manner without any reduction in the final grade as a direct result of such absence. If you anticipate missing an exam you have to make arrangements with the instructor prior to the exam date. In compliance with UAR 131.05, regardless of the nature of the excused absence, the student is responsible for opening a line of communication with the instructor and completing all coursework according to the terms agreed upon between the instructor and the student. It is the responsibility of the student to request an opportunity to complete missed work following an absence and this request should be made to the instructor no later than the next class session. Once an excuse has been granted for the absence, all missed work must be completed within the time frame agreed upon between the student and the instructor in order for the student to receive full credit.

Academic Honesty

Cheating, fabrication, plagiarism or helping others to commit these acts will not be tolerated. Academic dishonesty will result in severe disciplinary action including, but not limited to, failure of the student assessment item or course, and/ or dismissal from MSU. If you are not sure what constitutes academic dishonesty, read the Eagle: Student Handbook or ask your instructor. An example of plagiarism is copying information from the

internet when appropriate credit is not given. The policy is located at: http://morehead-st.edu/units/studentlife/handbook/academicdishonesty.html.

Americans with Disabilities Act (ADA):

Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188, e.day@moreheadstate.edu, or visit their website at www.moreheadstate.edu/disability for more information.

Campus Safety Statement

Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: http://www.moreheadstate.edu/emergency.

CS 385 – 001
Fall 2020 Tentative Weekly Schedule*

Week #	Topic	Readings
1	Review of C# and .Net	
2	Advanced Windows Programming	CH 9
3	Advanced Windows Programming	CH 9
4	Advanced Event Driven Programming	CH 10
5	Advanced Event Driven Programming	CH 10
6	Advanced Object-Oriented Programming Features: Interfaces and Generics	CH 11
7	Advanced Object-Oriented Programming Features: Dynamics	CH 11
8	Advanced Exception Handling	CH 12
9	Advanced Exception Handling	CH 12
10	Working with Files	CH 13
11	Working with Files	CH 13
12	ADO.NET	CH 14
13	LINQ	CH 14
14	Web-based Applications	CH 15

15	Web-based Applications and Mobile Applications	CH 15
16	Mobile Applications	CH 15

*The instructor reserves the right to alter this tentative schedule as circumstances may dictate. Changes will be announced in the class. It is the student's responsibility to obtain information pertaining to changes in this schedule that are announced when he/she is absent from class.

COURSE
New Course or Major Revision to Existing Course
Undergraduate Curriculum Routing Form
Revised April 2019

This is a ☒ **New Course** ☐ **Revised Course**

Course: (if revision, as listed in current catalog)	Parallel and Distributed Systems, CS 440, (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

If question F1 or F2 in section V is answered yes, then you (the initiator) must have a representative from Information Technology (GH 201) sign the signature sheet before it is submitted to the department curriculum committee.

( ) Approved ( ) Disapproved

Information Technology Resources Are Available (Sign and Print) Date

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Ahmad Zargari (✓) Approved ( ) Disapproved 9/20/19

Department Chair or Associate Dean (Sign and Print) Date

Trace Armstrong (✓) Approved ( ) Disapproved 9/23/19

College Curriculum Committee (Sign and Print) Date

Roy Terrell (✓) Approved ( ) Disapproved 9/24/19

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if the course is required in any secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L Couch (✓) Approved ( ) Disapproved 11/23/19

Undergraduate Curriculum Committee (Sign and Print) Date

(✓) Approved ( ) Disapproved 11-24-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Course: (as listed in current catalog)	Parallel and Distributed Systems, CS 440, (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		**Department Curriculum Committee Chair**
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If an Information Technology signature is required, it has been obtained.	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The course title, department, and college names correspond to the current catalog.	☑
☑	Course teaching workload, formula, and semesters taught are specified.	☑
☑	The course description EXACTLY matches the course description stated in the syllabus.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed. Impact is defined as any program or department that requires the course, offers the course as an elective, offers a similar course, has an equated course, has the course listed as a co-requisite or pre-requisite, shares staff and/or resources.	☑
☑	Responses are complete and applicable for each question.	☑
☑	If the course requires the use of live animals, the IACUC form is attached.	☑
☑	The syllabus starts on a separate page.	☑
☑	The syllabus contains a heading to reflect "Morehead State University" as well as college, school, and/or department.	☑
☑	The syllabus contains the course title and course number (exactly as listed in the proposal).	☑
☑	The syllabus contains the academic term with date.	☑
☑	The syllabus contains the instructor's name.	☑
☑	The syllabus contains the office location.	☑

☑	The syllabus contains the instructor's office phone number and office hours schedule.	☑
☑	The syllabus contains the email address and URL for the instructor's personal web site, if applicable.	☑
☑	The syllabus contains the revised course description and it exactly matches the course description on the proposal. If there is no revision to the course description, it exactly matches the course description in the current catalog.	☑
☑	The syllabus contains the intended student learning outcomes related to program objectives as specified in the catalog.	☑
☑	The syllabus contains the methods by which the achievement of each student learning outcome listed on the syllabus will be measured. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; or 2. Students will complete an exam; objective test.	☑
☑	The syllabus contains a week by week or day by day course calendar with specific content, assignments and/or exams highlighted.	☑
☑	The syllabus contains a grading description and distribution (please be very specific).	☑
☑	The syllabus contains a course attendance policy (please be very specific and ensure compliance with UAR 131.04).	☑
☑	The syllabus contains the following Campus Safety Statement: **Campus Safety Statement** Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: http://www.moreheadstate.edu/emergency/	☑
☑	The syllabus contains the following academic honesty policy: **Academic honesty:** All students at Morehead State University are required to abide by accepted standards of academic honesty. Academic honesty includes doing one's own work, giving credit for the work of others, and using resources appropriately. Guidelines for dealing with acts of academic dishonesty can be found in the academic catalog.	☑
☑	The syllabus contains the following policy for accommodating students with disabilities: **Americans with Disabilities Act (ADA)** Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188 or e.day@moreheadstate.edu or visit their website at www.moreheadstate.edu/disability.	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Originator (Sign and Print) — Approval Date: 9/20/19

Department Curriculum Committee Chair (Sign and Print) — Approval Date: 9/20/19

COURSE

New Course or Major Revision to Existing Course

This outline is to be used when a new course is proposed or when a major change is proposed to an existing course. If you are preparing a *new* experimental course/workshop proposal, please use the New Experimental Course/Workshop form. This outline is not to be used for General Education Courses. Refer to the General Education web site.

I. COURSE INFORMATION

- The course title should only be 30 characters.
- The following are definitions of terms related to courses:
  - **Petition required** – requires permission from the Department Chair to enroll in a section of the course.
  - **Equated** – two different courses with the same content at the same level with different prefixes.
  - **Restricted** – program admission is required and/or must have Department Chair approval.
  - **Formula** – (3-0-3) = instruction hours – lab hours – credit hours

This is a ☐ **New Course** ☐ **Revised Course**

	Course prefix (Example: ENG)	Number (Example: 100)	Title (Example: Writing I)	Formula (Example: 3-0-3)	Faculty Load (Contact your Department Chair or Dean's Office for assistance)	Intended Terms Offered (Example: Fall/Spring)
Course Name (as listed in the current catalog)						
Proposed Course Name	Course prefix (Example: ENG)	Number (Example: 100)	Title (Example: Writing I)	Formula (Example: 3-0-3)	Faculty Load (Contact your Department Chair or Dean's Office for assistance)	Intended Terms Offered (Example: Fall/Spring)
	CS	440	Parallel and Distributed Systems	(3,0,3)	3	Spring

Approved major or program(s) in which the course will be offered. (as listed in the current catalog)
Computer Science

This is a ☒ **required course. This is an** ☐ **elective course.**

Course Description	Course description ***exactly as it will appear in the catalog and as it appears on the sample syllabus.*** Include pre-requisites/co-requisites, petition requirements, course equations, restrictions and term(s) offered. Example: XYZ 288. Guidelines for a New Course. (3-0-3) Fall and Spring; petition required. A study of the impact of technology on individuals, society, and the environment. Equated with ABC 288.

CS 440. Parallel and Distributed Systems. (3-0-3) Spring; Pre-requisites: CS 310. This course provides an introduction to parallel and distributed systems. Topics include fundamentals of distributed computing systems, types of network, network principles, network protocols, communication across distributed systems, basic architectures of parallel and distributed systems, multithreaded computing, principles of parallel algorithm design, and performance of parallel and distributed systems.

II. PURPOSE, GOALS AND OBJECTIVES

A. What are the goals and objectives of the proposal? Explain why you are proposing a new course or why and how you are revising a current course.

Parallel and distributed computing is one of the important topics in computer science.
Students will learn in this course the fundamentals of distributed systems with a focus on the basic concepts related to communication across the distributed systems, basic architectures of parallel and distributed systems, and multithreaded computing.
Students will learn new programming skills related to parallel computing.

B. Justify the proposed instructional level (100-600) or instructional level change.

This course will be classified as a 400-level and CS 310 is required as a prerequisite. This course assumes that the students have a good programming skills in C++ and have already studied algorithms CS 310.

C. List the student learning outcomes for the course.

- Understand the fundamentals of distributed computing systems, types of network, network principles, network protocols.
- Understand the fundamentals of communication across distributed systems
- Develop programming skills in the area of multithreaded computing
- Understand the principles of performance analysis of parallel and distributed systems
- Develop the ability to think critically

D. Describe how those student learning outcomes will be assessed. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; **or** 2. Students will complete an exam; objective test.

1. Students will complete programming assignments; scored by rubrics.
3. Students will complete exams; objective tests.

E. Define how the course helps students to achieve learning objectives required for the program.

This course will provide the computer science students with the skills they need to work in the areas related to parallel and distributed systems. Students will have a firm understanding of the fundamentals of distributed computing systems, types of network, network principles, network protocols. This course will provide students with powerful programming skills in the area of multithreaded computing. This supports the program educational objectives of having a firm and competitive foundation in Computer Science and and being able to function as productive members of software development teams.

F. Explain how the specific goals and objectives of the course relate to the mission statement of the University.

This proposed course offers a quality higher education opportunity and foster creative thinking for students pursing degrees in computer science. The course will provide the students with the required knowledge and skills they need to work in the field of computer science after graduation towards the goal of being successful in a global environment.

III. IMPACT

A. List any existing course(s) that will be replaced by the proposed/revised course.

This course does not replace any existing course.

B. List other courses now offered at MSU that will have duplication or overlap. Explain the degree to which the course duplicates or overlaps and provide justification for the duplication or overlap.

This course does not duplicate or overlap any existing course at MSU.

C. List departments and programs that could be impacted by this proposal. For example, any department that:

- **a. requires the course**
- **b. offers the course as an elective**
- **c. offers a similar course**
- **d. has an equated course**
- **e. has the course listed as a co-requisite or pre-requisite**
- **f. shares staff and/or resources**

There is no impact on the other departments and programs.

D. List each of the individuals notified by the proposing department chair and define the method of contact (e-mail, phone conversation, etc.)

NA

IV. PERSONNEL

A. List names, qualifications including the highest earned degree, and academic rank(s), of faculty available to MSU who will teach the course.

Heba Elgazzar, Ph.D. Computer Science and Engineering, Assistant Professor of Computer Science.
Sherif Rashad, Ph.D. Computer Science and Engineering, Professor of Computer Science.
Asim Chaudhry, M.Sc. Engineering and Technology Management, Instructor of Computer Science.

B. Identify external adjunct faculty, if appropriate.

None.

V. ADDITIONAL INFORMATION

A. Desired section size and anticipated enrollment.

29 students /section

B. Desired implementation date for the course.

Spring 2021

C. Method of instruction (online, lecture, laboratory, individualized, etc.).

Lectures with Hands-on activities

D. Additional facilities and special equipment needs for this course, if any.

None.

E. Use of library resources

It is recommended that you contact a library liaison prior to completing this section to determine what resources and services are available to support the course.

- **Does the course require library resources to support specific class assignments or supplemental reading?** ☒ **Yes** ☐ **No**
- **Do the library services and resources presently available meet student needs for the course?** ☒ **Yes** ☐ **No**

If not, what library acquisitions are being proposed to meet essential needs?

F. Does this course require new technology?

Please note that Information Technology (GH 110) should be notified when the course proposal is being developed. Early notification will allow IT an opportunity to provide quality information that can be included in the proposal request form.

☐ **Yes** (If yes, you must have a representative from Information Technology review the proposal and sign the signature sheet.)

☒ **No**

If yes, please list:

1. **the software to be used and its estimated cost. If there is intent to utilize the software in a lab, include the estimated cost of the server-based license for the software. (IT does not install individual packages in labs, only server-based versions).**

2. **the type of hardware to be utilized.**

Note: Students will use the current computer workstations and programming environments to write and run computer programs. These workstations and programming environments are already provided in the computer laboratories at the School of Engineering and Computer Science.

G. Does this course involve the use of live animals? ☐ **Yes** ☒ No

If so, include the approval form from the associated Institutional Animal Care and Use Committee (IACUC).

H. Please include a sample syllabus (must start on new page). *All elements on the syllabus checklist must be included on the sample syllabus* (syllabus checklist attached).

- Proposals for all Teacher Education courses (including content courses that typically have 50% more teacher preparation majors enrolled) are required to go to the Teacher Education Committee as part of the curriculum approval process
- The teacher education syllabi must contain these elements: the theme for MSU's Teacher Education Program; CAEP* themes; any additional EPSB themes; and program appropriate Kentucky Teacher Standards (www.kyepsb.net/teacherprep/standards.asp). Further information and models are provided at http://www.moreheadstate.edu/education/.
- *The College of Education (CoE) is NCATE accredited. NCATE and TEAC have combined to form CAEP, a new national accrediting organization. Educator Preparation Programs, including the CoE at MSU are in the process of transitioning from NCATE to CAEP and as such, we are working to transition to align our programs with CAEP standards and requirements in anticipation of our next accreditation visit in 2018, at which time we will fall fully under CAEP standards and guidelines. For more information on CAEP and the new accreditation process, please see www.caepnet.org.

MOREHEAD STATE
UNIVERSITY
ELMER R. SMITH COLLEGE OF
BUSINESS & TECHNOLOGY

Morehead State University
Elmer R. Smith College of Business and Technology
School of Engineering and Computer Science
Department of Computer Science and Electronics

Parallel and Distributed Systems
CS 440
Spring 2021

Instructor: Sherif Rashad **Office:** LCB 201
Phone: (606) 783-9179 **Email:** s.rashad@moreheadstate.edu

Office Hours:

Class Meeting Time and Place:

Blackboard:

The course materials for this course will be available on Blackboard http://moreheadstate.blackboard.com. The Blackboard will contain the course syllabus, PowerPoint slides, class announcements, assignments, due dates, and other information for the course.

Course Description:

CS 440. Parallel and Distributed Systems. (3-0-3) Spring; Pre-requisites: CS 310. This course provides an introduction to parallel and distributed systems. Topics include fundamentals of distributed computing systems, types of network, network principles, network protocols, communication across distributed systems, basic architectures of parallel and distributed systems, multithreaded computing, principles of parallel algorithm design, and performance of parallel and distributed systems.

Students Learning Outcomes:

- Understand the fundamentals of distributed computing systems, types of network, network principles, network protocols.
- Understand the fundamentals of communication across distributed systems
- Develop programming skills in the area of multithreaded computing
- Understand the principles of performance analysis of parallel and distributed systems
- Develop the ability to think critically

Assignment Description and Distribution:

Parallel and Distributed Systems (CS 440 – 001)	
Assessment (percentage)	**Description**
Project Assignments (40 %)	These assignments will apply to course lectures.
Quizzes (10 %)	Quizzes will apply to course lectures.
Exam I (15%)	This exam will apply to course lectures.
Exam II (15 %)	This exam will apply to course lectures.
Final Exam (20 %)	This exam will apply to course lectures.

Extracurricular Activities

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Grading Scale:

The grading scale is as follows:

100-90.00 = A, 89.99-80.00 = B, 79.99-70.00 = C, 69.99-60.00 = D, and 59.99-0 = E.

Textbook:

Distributed Systems: Concepts and Design, by George Coulouris and Jean Dollimore, 5th Edition, Pearson.

Attendance Policy:

Attendance at class meetings and lab sessions is required in this class. If a student has to miss a lecture or lab session, it is the student's sole responsibility to become up to date with the material covered in class. If you miss an exam due to illness, health problems, emergencies, or a University excused absence, as identified in the UAR 131.05 policy, you have to provide necessary documentation to substantiate your excuse and to have the opportunity to make up work missed in a fair and equitable manner without any reduction in the final grade as a direct result of such absence. If you anticipate missing an exam you have to make arrangements with the instructor prior to the exam date. In compliance with UAR 131.05, regardless of the nature of the excused absence, the student is responsible for opening a line of communication with the instructor and completing all coursework according to the terms agreed upon between the instructor and the student. It is the responsibility of the student to request an opportunity to complete missed work following an absence and this request should be made to the instructor no later than the next class session. Once an excuse has been granted for the absence, all missed work must be completed within the time frame agreed upon between the student and the instructor in order for the student to receive full credit.

Academic Honesty

Cheating, fabrication, plagiarism or helping others to commit these acts will not be tolerated. Academic dishonesty will result in severe disciplinary action including, but not limited to, failure of the student assessment item or course, and/ or dismissal from MSU. If you are not sure what constitutes academic dishonesty, read the Eagle: Student Handbook or ask your instructor. An example of plagiarism is copying information from the internet when appropriate credit is not given. The policy is located at: http://morehead-st.edu/units/studentlife/handbook/academicdishonesty.html.

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Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188, e.day@moreheadstate.edu, or visit their website at www.moreheadstate.edu/disability for more information.

Campus Safety Statement

Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: http://www.moreheadstate.edu/emergency.

CS 440 – 001
Spring 2021 Tentative Weekly Schedule*

Week #	Topic	Readings
1	Introduction to Parallel and Distributed System	Ch 1
2	System Models and architectures of parallel and distributed systems	CH 2
3	Communication across the distributed systems	CH 3
4	Communication across the distributed systems	CH 3
5	Interprocess Communication	CH 4
6	Interprocess Communication	CH 4
7	Remote Invocation	CH 5
8	Indirect Communication	CH 6
9	Operating System Support	CH 7
10	Distributed Objects and Components	CH 8
11	Peer-to-Peer Systems	CH 10
12	Peer-to-Peer Systems	CH 10
13	Mutlithreded Programming	Class notes
14	Principles of parallel algorithm design	Class notes
15	Principles of parallel algorithm design	Class notes

16	Performance of parallel and distributed systems.	Class notes

*The instructor reserves the right to alter this tentative schedule as circumstances may dictate. Changes will be announced in the class. It is the student's responsibility to obtain information pertaining to changes in this schedule that are announced when he/she is absent from class.

COURSE
New Course or Major Revision to Existing Course
Undergraduate Curriculum Routing Form

Revised April 2019

This is a ☒ **New Course** ☐ **Revised Course**

Course: (if revision, as listed in current catalog)	Digital Forensics, CS 482, (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

If question F1 or F2 in section V is answered yes, then you (the initiator) must have a representative from Information Technology (GH 201) sign the signature sheet before it is submitted to the department curriculum committee.

( ) Approved ( ) Disapproved

Information Technology Resources Are Available (Sign and Print) Date

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Ahmad Zargari (✓) Approved ( ) Disapproved 9/20/19

Department Chair or Associate Dean (Sign and Print) Date

(✓) Approved ( ) Disapproved 9/23/19

College Curriculum Committee (Sign and Print) Date

Greg Russell (✓) Approved ( ) Disapproved 9/24/19

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if the course is required in any secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L. Couch (✓) Approved ( ) Disapproved 11/23/19

Undergraduate Curriculum Committee (Sign and Print) Date

(✓) Approved ( ) Disapproved 11-4-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Course: (as listed in current catalog)	Digital Forensics, CS 482, (3,0,3)
Department: (as listed in current catalog)	Department of Computer Science and Electronics
College: (as listed in current catalog)	Elmer R. Smith College of Business and Technology

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

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The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If an Information Technology signature is required, it has been obtained.	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The course title, department, and college names correspond to the current catalog.	☑
☑	Course teaching workload, formula, and semesters taught are specified.	☑
☑	The course description EXACTLY matches the course description stated in the syllabus.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed. Impact is defined as any program or department that requires the course, offers the course as an elective, offers a similar course, has an equated course, has the course listed as a co-requisite or pre-requisite, shares staff and/or resources.	☑
☑	Responses are complete and applicable for each question.	☑
☑	If the course requires the use of live animals, the IACUC form is attached.	☑
☑	The syllabus starts on a separate page.	☑
☑	The syllabus contains a heading to reflect "Morehead State University" as well as college, school, and/or department.	☑
☑	The syllabus contains the course title and course number (exactly as listed in the proposal).	☑
☑	The syllabus contains the academic term with date.	☑
☑	The syllabus contains the instructor's name.	☑
☑	The syllabus contains the office location.	☑

☑	The syllabus contains the instructor's office phone number and office hours schedule.	☑
☑	The syllabus contains the email address and URL for the instructor's personal web site, if applicable.	☑
☑	The syllabus contains the revised course description and it exactly matches the course description on the proposal. If there is no revision to the course description, it exactly matches the course description in the current catalog.	☑
☑	The syllabus contains the intended student learning outcomes related to program objectives as specified in the catalog.	☑
☑	The syllabus contains the methods by which the achievement of each student learning outcome listed on the syllabus will be measured. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; or 2. Students will complete an exam; objective test.	☑
☑	The syllabus contains a week by week or day by day course calendar with specific content, assignments and/or exams highlighted.	☑
☑	The syllabus contains a grading description and distribution (please be very specific).	☑
☑	The syllabus contains a course attendance policy (please be very specific and ensure compliance with UAR 131.04).	☑
☑	The syllabus contains the following Campus Safety Statement: **Campus Safety Statement** Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: http://www.moreheadstate.edu/emergency/	☑
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☑	The syllabus contains the following policy for accommodating students with disabilities: **Americans with Disabilities Act (ADA)** Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188 or e.day@moreheadstate.edu or visit their website at www.moreheadstate.edu/disability.	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Sheriff Rashad — 9/20/19
Originator (Sign and Print) — Approval Date

Sheriff Rashad — 9/20/19
Department Curriculum Committee Chair (Sign and Print) — Approval Date

COURSE

New Course or Major Revision to Existing Course

This outline is to be used when a new course is proposed or when a major change is proposed to an existing course. If you are preparing a *new* experimental course/workshop proposal, please use the New Experimental Course/Workshop form. This outline is not to be used for General Education Courses. Refer to the General Education web site.

I. COURSE INFORMATION

- The course title should only be 30 characters.
- The following are definitions of terms related to courses:
  - **Petition required** – requires permission from the Department Chair to enroll in a section of the course.
  - **Equated** – two different courses with the same content at the same level with different prefixes.
  - **Restricted** – program admission is required and/or must have Department Chair approval.
  - **Formula** – (3-0-3) = instruction hours – lab hours – credit hours

This is a ☐ **New Course** ☐ **Revised Course**

	Course prefix (Example: ENG)	Number (Example: 100)	Title (Example: Writing I)	Formula (Example: 3-0-3)	Faculty Load (Contact your Department Chair or Dean's Office for assistance)	Intended Terms Offered (Example: Fall/Spring)
Course Name (as listed in the current catalog)						
Proposed Course Name	CS	482	Digital Forensics	(3,0,3)	3	Fall

Approved major or program(s) in which the course will be offered. (as listed in the current catalog)
Computer Science

This is a ☒ **required course. This is an** ☐ **elective course.**

Course Description	Course description *exactly as it will appear in the catalog and as it appears on the sample syllabus.* Include pre-requisites/co-requisites, petition requirements, course equations, restrictions and term(s) offered. Example: XYZ 288. Guidelines for a New Course. (3-0-3) Fall and Spring; petition required. A study of the impact of technology on individuals, society, and the environment. Equated with ABC 288.

CS 482. Digital Forensics. (3-0-3) Fall; Pre-requisites: CS 360. This course covers the principles of digital forensics. Topics include digital forensics analysis, digital evidence, file systems analysis, file carving, information hiding and steganography, password recovery, email forensics, database forensics, network forensics, mobile device forensics, and digital forensics tools.

II. PURPOSE, GOALS AND OBJECTIVES

A. What are the goals and objectives of the proposal? Explain why you are proposing a new course or why and how you are revising a current course.

Cybersecurity is one of the important topics in computer science. This course covers the principles of digital forensics related to cybercrimes. Students will learn in this course the fundamentals of digital forensics and how to use digital forensics tools. Topics related to computer forensics, email forensics, database forensics, network forensics, and mobile device forensics will be covered in this course.

B. Justify the proposed instructional level (100-600) or instructional level change.

This course will be classified as a 400-level and CS 360 is required as a prerequisite. This course assumes that the students have a good programing skills and have already studied operating systems in CS 360.

C. List the student learning outcomes for the course.

- Understand the fundamentals of digital forensics
- Develop advanced skills in digital forensics analysis
- Advanced use of digital forensic tools for different platforms
- Demonstrate an understanding and awareness of societal and ethical issues in computing
- Develop the ability to analyze, observe, model, and validate

D. Describe how those student learning outcomes will be assessed. List each activity and the assessment

method for that activity. For example: 1. Students will write a term paper; scored by a rubric; **or**
2. Students will complete an exam; objective test.

1. Students will complete project assignments; scored by rubrics.
3. Students will complete exams; objective tests.

E. Define how the course helps students to achieve learning objectives required for the program.

This course will provide the computer science students with the skills they need to work in the field of cybersecurity. Students will be able to apply their knowledge from this class and use digital forensics tools effectively in digital investigation. This supports the program educational objectives of having a firm and competitive foundation in Computer Science and demonstrating an understanding and awareness of societal and ethical issues in computing.

F. Explain how the specific goals and objectives of the course relate to the mission statement of the University.

This proposed course offers a quality higher education opportunity and foster creative thinking for students pursing degrees in computer science with a concentration in cybersecurity. The course will provide the students with the required knowledge and skills they need to work in the field of cybersecurity after graduation towards the goal of being successful in a global environment.

III. IMPACT

A. List any existing course(s) that will be replaced by the proposed/revised course.

This course does not replace any existing course.

B. List other courses now offered at MSU that will have duplication or overlap. Explain the degree to which the course duplicates or overlaps and provide justification for the duplication or overlap.

This course does not duplicate or overlap any existing course at MSU.

C. List departments and programs that could be impacted by this proposal. For example, any department that:

- **a. requires the course**
- **b. offers the course as an elective**
- **c. offers a similar course**
- **d. has an equated course**
- **e. has the course listed as a co-requisite or pre-requisite**
- **f. shares staff and/or resources**

There is no impact on the other departments and programs.

D. List each of the individuals notified by the proposing department chair and define the method of contact (e-mail, phone conversation, etc.)

NA

IV. PERSONNEL

A. List names, qualifications including the highest earned degree, and academic rank(s), of faculty available to MSU who will teach the course.

Heba Elgazzar, Ph.D. Computer Science and Engineering, Assistant Professor of Computer Science.
Sherif Rashad, Ph.D. Computer Science and Engineering, Professor of Computer Science.
Asim Chaudhry, M.Sc. Engineering and Technology Management, Instructor of Computer Science.

B. Identify external adjunct faculty, if appropriate.

None.

V. ADDITIONAL INFORMATION

A. Desired section size and anticipated enrollment.

29 students /section

B. Desired implementation date for the course.

Fall 2020

C. Method of instruction (online, lecture, laboratory, individualized, etc.).

Lectures with Hands-on activities

D. Additional facilities and special equipment needs for this course, if any.

None.

E. Use of library resources

It is recommended that you contact a library liaison prior to completing this section to determine what resources and services are available to support the course.

- **Does the course require library resources to support specific class assignments or supplemental reading?** ☒ **Yes** ☐ **No**
- **Do the library services and resources presently available meet student needs for the course?** ☒ **Yes** ☐ **No**

If not, what library acquisitions are being proposed to meet essential needs?

F. Does this course require new technology?

Please note that Information Technology (GH 110) should be notified when the course proposal is being developed. Early notification will allow IT an opportunity to provide quality information that can be included in the proposal request form.

☐ **Yes** (If yes, you must have a representative from Information Technology review the proposal and sign the signature sheet.)

☒ **No**

If yes, please list:

1. **the software to be used and its estimated cost. If there is intent to utilize the software in a lab, include the estimated cost of the server-based license for the software. (IT does not install individual packages in labs, only server-based versions).**

2. **the type of hardware to be utilized.**

Note: Students will use the current computer workstations and programming environments to write and run computer programs. These workstations and programming environments are already provided in the computer laboratories at the School of Engineering and Computer Science.

G. Does this course involve the use of live animals? ☐ **Yes** ☒ No

If so, include the approval form from the associated Institutional Animal Care and Use Committee (IACUC).

H. Please include a sample syllabus (must start on new page). *All elements on the syllabus checklist must be included on the sample syllabus* (syllabus checklist attached).

- Proposals for all Teacher Education courses (including content courses that typically have 50% more teacher preparation majors enrolled) are required to go to the Teacher Education Committee as part of the curriculum approval process
- The teacher education syllabi must contain these elements: the theme for MSU's Teacher Education Program; CAEP* themes; any additional EPSB themes; and program appropriate Kentucky Teacher Standards (www.kyepsb.net/teacherprep/standards.asp). Further information and models are provided at http://www.moreheadstate.edu/education/.
- *The College of Education (CoE) is NCATE accredited. NCATE and TEAC have combined to form CAEP, a new national accrediting organization. Educator Preparation Programs, including the CoE at MSU are in the process of transitioning from NCATE to CAEP and as such, we are working to transition to align our programs with CAEP standards and requirements in anticipation of our next accreditation visit in 2018, at which time we will fall fully under CAEP standards and guidelines. For more information on CAEP and the new accreditation process, please see www.caepnet.org.

MOREHEAD STATE UNIVERSITY
ELMER R. SMITH COLLEGE OF BUSINESS & TECHNOLOGY

Morehead State University
Elmer R. Smith College of Business and Technology
School of Engineering and Computer Science

Digital Forensics
CS 482
Fall 2020

Instructor: Sherif Rashad **Office:** LCB 201
Phone: (606) 783-9179 **Email:** s.rashad@moreheadstate.edu

Office Hours:

Class Meeting Time and Place:

Blackboard:

The course materials for this course will be available on Blackboard http://moreheadstate.blackboard.com. The Blackboard will contain the course syllabus, PowerPoint slides, class announcements, assignments, due dates, and other information for the course.

Course Description:

CS 482. Digital Forensics. (3-0-3) Fall; Pre-requisites: CS 360. This course covers the principles of digital forensics. Topics include digital forensics analysis, digital evidence, file systems analysis, file carving, information hiding and steganography, password recovery, email forensics, database forensics, network forensics, mobile device forensics, and digital forensics tools.

Students Learning Outcomes:

- Understand the fundamentals of digital forensics
- Develop advanced skills in digital forensics analysis
- Advanced use of digital forensic tools for different platforms
- Demonstrate an understanding and awareness of societal and ethical issues in computing
- Develop the ability to analyze, observe, model, and validate

Assignment Description and Distribution:

Digital Forensics (CS 482 – 001)	
Assessment (percentage)	**Description**
Project Assignments (40 %)	These assignments will apply to course lectures.
Quizzes (10 %)	Quizzes will apply to course lectures.
Exam I (15%)	This exam will apply to course lectures.
Exam II (15 %)	This exam will apply to course lectures.
Final Exam (20 %)	This exam will apply to course lectures.

Extracurricular Activities

Participating in ACM meetings, and attending talks are ways of expanding your knowledge of computer science. You can obtain up to 2% as extra credit by participating in meetings, talks, or activities announced. To receive credit, you need to sign the ACM sign-up sheet at each event. To receive 2% extra credit a student needs to attend all ACM meetings. Otherwise he/she will receive partial of the extra credit.

Grading Scale:

The grading scale is as follows:

100-90.00 = A, 89.99-80.00 = B, 79.99-70.00 = C, 69.99-60.00 = D, and 59.99-0 = E.

Textbook:

Digital Forensics with Open Source Tools, by Cory Altheide and Harlan Carvey, 1st Edition, Elsevier.

Attendance Policy:

Attendance at class meetings and lab sessions is required in this class. If a student has to miss a lecture or lab session, it is the student's sole responsibility to become up to date with the material covered in class. If you miss an exam due to illness, health problems, emergencies, or a University excused absence, as identified in the UAR 131.05 policy, you have to provide necessary documentation to substantiate your excuse and to have the opportunity to make up work missed in a fair and equitable manner without any reduction in the final grade as a direct result of such absence. If you anticipate missing an exam you have to make arrangements with the instructor prior to the exam date. In compliance with UAR 131.05, regardless of the nature of the excused absence, the student is responsible for opening a line of communication with the instructor and completing all coursework according to the terms agreed upon between the instructor and the student. It is the responsibility of the student to request an opportunity to complete missed work following an absence and this request should be made to the instructor no later than the next class session. Once an excuse has been granted for the absence, all missed work must be completed within the time frame agreed upon between the student and the instructor in order for the student to receive full credit.

Academic Honesty

Cheating, fabrication, plagiarism or helping others to commit these acts will not be tolerated. Academic dishonesty will result in severe disciplinary action including, but not limited to, failure of the student assessment item or course, and/ or dismissal from MSU. If you are not sure what constitutes academic dishonesty, read the Eagle: Student Handbook or ask your instructor. An example of plagiarism is copying information from the internet when appropriate credit is not given. The policy is located at: http://morehead-st.edu/units/studentlife/handbook/academicdishonesty.html.

Americans with Disabilities Act (ADA):

Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188, e.day@moreheadstate.edu, or visit their website at www.moreheadstate.edu/disability for more information.

Campus Safety Statement

Emergency response information will be discussed in class. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: http://www.moreheadstate.edu/emergency.

CS 482 – 001
Fall 2020 Tentative Weekly Schedule*

Week #	Topic	Readings
1	What is "Digital Forensics?"	Ch 1
2	Benefits of Open Source Forensics Tools	CH 1
3	Open Source Examination Platform	CH 2
4	Open Source Examination Platform	CH 2
5	Disk and File System Analysis	CH 3
6	Disk and File System Analysis	CH 3
7	Windows Systems and Artifacts	CH 4
8	Windows Systems and Artifacts	CH 4
9	Linux Systems and Artifacts	CH 5
10	Linux Systems and Artifacts	CH 5
11	Mobile Devices Forensics	CH 6
12	Mobile Devices Forensics	CH 6
13	Internet Artifacts	CH 7
14	File Analysis	CH 8
15	File Analysis	CH 8
16	Automating Analysis and Extending Capabilities	CH 9

*The instructor reserves the right to alter this tentative schedule as circumstances may dictate. Changes will be announced in the class. It is the student's responsibility to obtain information pertaining to changes in this schedule that are announced when he/she is absent from class.

COURSE
New Course or Major Revision to Existing Course
Undergraduate Curriculum Routing Form

Revised April 2019

This is a ☒ **New Course** ☐ **Revised Course**

Course: (if revision, as listed in current catalog)	NURS 318: Success in College, Career and Life (3-0-3)
Department: (as listed in current catalog)	Nursing
College: (as listed in current catalog)	Science

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

If question F1 or F2 in section V is answered yes, then you (the initiator) must have a representative from Information Technology (GH 201) sign the signature sheet before it is submitted to the department curriculum committee.

( ) Approved ( ) Disapproved

Information Technology Resources Are Available (Sign and Print) Date

he Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

J. Parker (X) Approved ( ) Disapproved 8/26/2019

Department Chair or Associate Dean (Sign and Print) Date

DIRK GRUPE (X) Approved ( ) Disapproved 2019-09-10

College Curriculum Committee (Sign and Print) Date

Wayne Mickel (X) Approved ( ) Disapproved 9/10/2019

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if the course is required in any secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L Conch Laurie L Conch (X) Approved ( ) Disapproved 10/23/19

Undergraduate Curriculum Committee (Sign and Print) Date

( ) Approved ( ) Disapproved 11-4-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Course: (as listed in current catalog)	NURS 318: Success in College, Career and Life
Department: (as listed in current catalog)	Nursing
College: (as listed in current catalog)	Science

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If an Information Technology signature is required, it has been obtained.	N/A
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	N/A
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The course title, department, and college names correspond to the current catalog.	☑
☑	Course teaching workload, formula, and semesters taught are specified.	☑
☑	The course description EXACTLY matches the course description stated in the syllabus.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed. Impact is defined as any program or department that requires the course, offers the course as an elective, offers a similar course, has an equated course, has the course listed as a co-requisite or pre-requisite, shares staff and/or resources.	☑
☑	Responses are complete and applicable for each question.	☑
☑	If the course requires the use of live animals, the IACUC form is attached.	N/A
☑	The syllabus starts on a separate page.	☑
☑	The syllabus contains a heading to reflect "Morehead State University" as well as college, school, and/or department.	☑
☑	The syllabus contains the course title and course number (exactly as listed in the proposal).	☑
☑	The syllabus contains the academic term with date.	☑
☑	The syllabus contains the instructor's name.	☑
☑	The syllabus contains the office location.	☑

☑	The syllabus contains the instructor's office phone number and office hours schedule.	☑
☑	The syllabus contains the email address and URL for the instructor's personal web site, if applicable.	☑
☑	The syllabus contains the revised course description and it exactly matches the course description on the proposal. If there is no revision to the course description, it exactly matches the course description in the current catalog.	☑
☑	The syllabus contains the intended student learning outcomes related to program objectives as specified in the catalog.	☑
☑	The syllabus contains the methods by which the achievement of each student learning outcome listed on the syllabus will be measured. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; or 2. Students will complete an exam; objective test.	☑
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☑	The syllabus contains the following policy for accommodating students with disabilities: **Americans with Disabilities Act (ADA)** Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188 or or visit their website at .	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

J Parsons C. PARSONS — 8/26/19

Originator (Sign and Print) — Approval Date

Shannon L. Smith-Strickland, DNP, APRN-BC — 08-26-19

Department Curriculum Committee Chair (Sign and Print) — Approval Date

COURSE

New Course or Major Revision to Existing Course

This outline is to be used when a new course is proposed or when a major change is proposed to an existing course. If you are preparing a *new* experimental course/workshop proposal, please use the New Experimental Course/Workshop form. This outline is not to be used for General Education Courses. Refer to the General Education web site.

I. COURSE INFORMATION

- The course title should only be 30 characters.
- The following are definitions of terms related to courses:
  - **Petition required** – requires permission from the Department Chair to enroll in a section of the course.
  - **Equated** – two different courses with the same content at the same level with different prefixes.
  - **Restricted** – program admission is required and/or must have Department Chair approval.
  - **Formula** – (3-0-3) = instruction hours – lab hours – credit hours

This is a ☒ **New Course** ☐ **Revised Course**

	Course prefix (Example: ENG)	Number (Example: 100)	Title (Example: Writing I)	Formula (Example: 3-0-3)	Faculty Load (Contact your Department Chair or Dean's Office for assistance)	Intended Terms Offered (Example: Fall/Spring)
Course Name (as listed in the current catalog)						
Proposed Course Name	**Course prefix** (Example: ENG)	**Number** (Example: 100)	**Title** (Example: Writing I)	**Formula** (Example: 3-0-3)	**Faculty Load** (Contact your Department Chair or Dean's Office for assistance)	**Intended Terms Offered** (Example: Fall/Spring)
	NURS	318	Success in College, Career and Life	(3-0-3)	3	Fall/Spring

Approved major or program(s) in which the course will be offered. (as listed in the current catalog)
Bachelor of Science in Nursing Post-Licensure

This is a ☐ **required course. This is an** ☒ **elective course.**

Course Description	Course description ***exactly as it will appear in the catalog and as it appears on the sample syllabus.*** Include pre-requisites/co-requisites, petition requirements, course equations, restrictions and term(s) offered. Example: XYZ 288. Guidelines for a New Course. (3-0-3) Fall and Spring; petition required. A study of the impact of technology on individuals, society, and the environment. Equated with ABC 288.

NURS 318. (3-0-3) Fall and Spring. Open to any interested student. A comprehensive review of strategies for success in college, employment/career and in life.

II. PURPOSE, GOALS AND OBJECTIVES

A. What are the goals and objectives of the proposal? Explain why you are proposing a new course or why and how you are revising a current course.

The goals of this course include providing students with success strategies for implementation in college, career and life beyond graduation. This course is being proposed because: 1) students need tools to be successful in college classes and in their employment, 2) there is a need to improve retention rates, and c) ameliorate life achievements.

B. Justify the proposed instructional level (100-600) or instructional level change.

This course is a 300 level course since it addresses content that equates to junior level curriculum. Learning activities require students to examine and later reexamine their personal attributes, complete a self assessment analysis and to develop strategies based upon their personal data to be successful in college, employment/career and life. Assignments include discussions, completion of self-analysis tools, focused writing in journals, an assertiveness assignment and writing their personal story sharing the impact of what was learned in the course on their collegiate journey, employment/future career and their life. The textbook selected for the course is not a "nursing" textbook since the course is open to nursing students as well as the general student population. Multiple professional online resources will also be used in the course to enhance student critical thinking, personal reflection and to enhance student learning related to being successful in college, their employment/career and their life beyond the collegiate experience.

C. List the student learning outcomes for the course.

1. Accept personal responsibility.
2. Increase self-motivation.

3. Analyze personal self-management.
4. Develop interdependence.
5. Increase self-awareness.
6. Maximize learning.
7. Develop emotional intelligence.
8. Raise self-esteem.
9. Write more effectively.
10. Improve creative and critical thinking.
11. Master effective study skills.
12. Appreciate diversity and raise cultural awareness.
13. Explore degree (major) and career choices.

D. Describe how those student learning outcomes will be assessed. List each activity and the assessment method for that activity. For example: 1. Students will write a term paper; scored by a rubric; **or**
2. Students will complete an exam; objective test.

1. Students will complete weekly discussion boards scored by a rubric.
2. Students will complete bi-weekly journals scored by a rubric.
3. Students will complete a self-assessment survey scored by a rubric. (Anecdotal Note: There are no correct answers. The rubric will score completion of the 3 survey sections).
4. Students will complete an assertiveness assignment that will be scored by a rubric.
5. Students will complete an essay titled, "Write One Story: Share Your Story" that will be scored by a rubric.

E. Define how the course helps students to achieve learning objectives required for the program.

1. Assume a leadership role in promoting quality and compliance regarding safety and health in a complex health care environment.
--Leadership roles in collegiate, career and life circumstances will be assessed and applied to facilitate success in college, career and life circumstances.
2. Develop effective interprofessional communication and collaboration and function effectively in interprofessional teams.
--Diverse demographics, which includes cultural differences will be examined, to promote interdependent partnerships and effective team work.
3. Promote individual and population health through health promotion and mitigation of acute and chronic illness.
--Strategies to educate and promote health relative to alcohol consumption, medication/drug use, smoking, nutrition/food choices, hydration (nonalcoholic), physical activity and stress reduction will be analyzed.
4. Exhibit profesional behaviors that are accountable, ethical, legal and moral.
--Professional behaviors that include taking personal responsibility and self-management, interdependent collaborations, heightened self-awareness, displaying emotional intelligence, and appreciating and raising cultural awareness will be examined and applied in college, career and in life occurrences.

F. Explain how the specific goals and objectives of the course relate to the mission statement of the University.

The goals and objectives of the course relate to the Morehead State University (MSU) mission by preparing students to be responsible for their learning, to interact with people from diverse cultural backgrounds, to think creatively and collaboratively and to serve the global community by being responsible citizens in their chosen profession.

III. IMPACT

A. List any existing course(s) that will be replaced by the proposed/revised course.

None

B. List other courses now offered at MSU that will have duplication or overlap. Explain the degree to which the course duplicates or overlaps and provide justification for the duplication or overlap.

None.

C. List departments and programs that could be impacted by this proposal. For example, any department that:

- **a. requires the course**
- **b. offers the course as an elective**
- **c. offers a similar course**
- **d. has an equated course**
- **e. has the course listed as a co-requisite or pre-requisite**
- **f. shares staff and/or resources**

None.

D. List each of the individuals notified by the proposing department chair and define the method of contact (e-mail, phone conversation, etc.)

NA

IV. PERSONNEL

A. List names, qualifications including the highest earned degree, and academic rank(s), of faculty available to MSU who will teach the course.

Lauren Bates, DNP, RN (Associate Professor)
Charla Burchett, MSN, APRN (Instructor of Nursing)
Nathania Bush, DNP, RN (Associate Professor)
Kimberly Clevenger, Ed.D., MSN, RN (Associate Professor)
Merry Jo Cloud, MSN, RN (Instructor/Simulation Specialist)
Teresa Ferguson, DNP, RN (Professor)
Judy Harrison, MSN, APRN (Instructor of Nursing)
Shelby Hill, MSN, RN (Instructor of Nursing)
Teresa Howell, DNP, RN (Professor)
Tonya Kennedy, MSN, RN (Instructor of Nursing)
Lindsey Kincaid Barrett, MSN, APRN
Lucy Mays, DNP, APRN (Professor)
Michelle McClave, Ed.D., MSN, RN (Associate Professor)
Lynn Parsons, PhD, RN (Professor)
Charles Rogers, MSN, APRN (Associate Professor)
Shelley Sadler, MSN, RN (Instructor of Nursing)
Shannon Smith-Stevens, DNP, APRN (Assistant Professor)
Christa Thompson, MSN, RN (Instructor of Nursing)
Lisa Wallace, DNP(c), MSN, RN (Assistant Professor)
Melissa Walters, MSN, APRN (Instructor of Nursing)
Michele Walters, DNP, APRN (Associate Professor)
Suzi White, DNP(c), MSN, RN (Associate Professor)

B. Identify external adjunct faculty, if appropriate.

Amy Brown, MSN, APRN
LaLona Hall, MSN, APRN
Jodi Myers, MSN
Christopher Noble, MSN
Diana Rose, MSN, APRN

V. ADDITIONAL INFORMATION

A. Desired section size and anticipated enrollment.

60 and 60

B. Desired implementation date for the course.

Fall 2020

C. Method of instruction (online, lecture, laboratory, individualized, etc.).

Online

D. Additional facilities and special equipment needs for this course, if any.

NA

E. Use of library resources

It is recommended that you contact a library liaison prior to completing this section to determine what resources and services are available to support the course.

- **Does the course require library resources to support specific class assignments or supplemental reading?** ☒ **Yes** ☐ **No**
- **Do the library services and resources presently available meet student needs for the course?** ☒ **Yes** ☐ **No**

If not, what library acquisitions are being proposed to meet essential needs?

F. Does this course require new technology?

Please note that Information Technology (GH 110) should be notified when the course proposal is being developed. Early notification will allow IT an opportunity to provide quality information that can be included in the proposal request form.

☐ **Yes** (If yes, you must have a representative from Information Technology review the proposal and sign the signature sheet.)

☒ **No**

If yes, please list:

1. **the software to be used and its estimated cost. If there is intent to utilize the software in a lab, include the estimated cost of the server-based license for the software. (IT does not install individual packages in labs, only server-based versions).**

2. **the type of hardware to be utilized.**

G. Does this course involve the use of live animals? ☐ **Yes** ☒ No

If so, include the approval form from the associated Institutional Animal Care and Use Committee (IACUC).

H. Please include a sample syllabus (must start on new page). *All elements on the syllabus checklist must be included on the sample syllabus* (syllabus checklist attached).

- Proposals for all Teacher Education courses (including content courses that typically have 50% more teacher preparation majors enrolled) are required to go to the Teacher Education Committee as part of the curriculum approval process
- The teacher education syllabi must contain these elements: the theme for MSU's Teacher Education Program; CAEP* themes; any additional EPSB themes; and program appropriate Kentucky Teacher Standards (www.kyepsb.net/teacherprep/standards.asp). Further information and models are provided at http://www.moreheadstate.edu/education/.
- *The College of Education (CoE) is NCATE accredited. NCATE and TEAC have combined to form CAEP, a new national accrediting organization. Educator Preparation Programs, including the CoE at MSU are in the process of transitioning from NCATE to CAEP and as such, we are working to transition to align our programs with CAEP standards and requirements in anticipation of our next accreditation visit in 2018, at which time we will fall fully under CAEP standards and guidelines. For more information on CAEP and the new accreditation process, please see www.caepnet.org.

MOREHEAD STATE UNIVERSITY

School of Health Sciences

Department of Nursing

Post-Licensure Baccalaureate Nursing Program

NURS 318: Success in College, Career and Life

Syllabus

Fall 2020

The baccalaureate degree program in nursing and master's degree program in nursing at Morehead State University is accredited by the Commission on Collegiate Nursing Education, 655 K Street NW, Suite 750, Washington, DC 20001, 202-887-6791.

MOREHEAD STATE UNIVERSITY
College of Science
School of Health Sciences
Department of Nursing
Post-Licensure Baccalaureate Nursing Program

COURSE NUMBER: NURS 318

COURSE TITLE: Success in College, Career and Life

COURSE CREDIT
AND CLOCK HOURS: 3 semester hours of credit

FACULTY:

Lynn C. Parsons, PhD, RN, NEA=BC
201 P Center for Health Education and Research
(606) 783-2641 – office
l.parsons@moreheadstate.edu
Office Hours: Available on request

CATALOG DESCRIPTION:

NURS 318. (3-0-3) Fall and Spring. Open to any interested student. A comprehensive review of strategies for success in college, employment/career and in life.

COURSE STUDENT LEARNING OUTCOMES:

Upon completion this course, the student will be able to:

1. Accept personal responsibility.
2. Increase self-motivation.
3. Analyze personal self-management.
4. Develop interdependence.
5. Increase self-awareness.
6. Maximize learning.
7. Develop emotional intelligence.
8. Raise self-esteem.
9. Write more effectively.
10. Improve creative and critical thinking.
11. Master effective study skills.
12. Appreciate diversity and raise cultural awareness.
13. Explore degree (major) and career choices.

TOPICAL OUTLINE:

Module 1
- Planning for Success

Module 2
- Accepting Personal Responsibility

Module 3
- Discovering Self-Motivation

Module 4
- Self-Management

Module 5
- Employing Interdependence

Module 6
- Gaining Self-Awareness

Module 7
- Adopting Lifelong Learning

Module 8
- Moving Forward to Life, career and Collegiate Success

TEACHING STRATEGIES:

Teaching strategies include lecture utilizing PowerPoint, discussion board, focused journaling, reading assignments, active learning exercises and assignments, audiovisual materials, computer assisted instruction (CAI), survey completion and analysis.

READING ASSIGNMENTS

The required course text is: *On Course: Strategies for Creating Success in College, Career, and Life.* 9th ed. Downing, S & Brennan, J. (2020).Boston, MA: Centage ISBN#978-0-357-02271-9

Module 1 – Chapter 1
Module 2 – Chapter 2
Module 3 – Chapter 3
Module 4 – Chapter 4
Module 5 – Chapter 5
Module 6 – Chapter 6
Module 7 – Chapter 7
Module 8 – Chapter 8 & Chapter 9

PROGRAM GRADING PROCEDURE:

A	89.5-100% of total points possible
B	79.5-89.4% of total points possible
C	69.5-79.4% of total points possible
D	59.5-69.4% of total points possible
E	$\leq$ 59.4% of total points possible

At the end of the course, individual assignment grades are added together for total points. The final course grade is based on the above percentage of total points earned as outlined in each course syllabus.

COURSE SPECIFIC GRADING INFORMATION:

A (89.5-100 points)
B (79.5-89 points)
C (69.5-79 points)
D (59.5-69 points)
E (≤ 59.4 points)

Discussions (8)	40
Journaling (4)	40
Self-Assessment Survey (1)	5
Assertiveness Assignment (1)	10
Personal Story Essay (1)	5
Total Points Possible	100

GRADING POLICY:

To successfully complete a nursing course, the student must achieve a "C" or above in the theory component. Grading information for specific assignments will be posted in the NURS 318: Success in College, Career and Life Blackboard site.

STUDENT LEARNING OUTCOMES (SLO) AND EVALUATION:

Evaluation Form	Journal (4)	Discussion (8)	Self-Awareness Survey	Assertiveness Assignment	Personal Story Essay
How Scored	Rubric	Rubric	Survey Completion	Rubric	Rubric
SLO-1	X	X	X	X	X
SLO-2	X	X		X	X
SLO-3	X	X		X	X
SLO-4	X	X			X
SLO-5	X	X	X	X	X
SLO-6	X	X	X		X
SLO-7	X	X	X	X	X
SLO-8	X	X		X	X
SLO-9	X	X			X
SLO-10	X	X			X
SLO-11	X	X	X		
SLO-12	X	X	X		X
SLO-13	X	X			

ATTENDANCE POLICY:

1. Theory: Faculty strongly recommend you to log on to Blackboard and University email daily in order to stay current with the course and the announcements. University email should be set to the default email. All email communication sent from faculty will be sent through your University email account. *There are no specific, scheduled meeting times; you will access course materials and activities when convenient for you. **However, the course is not self-paced**; be sure to work within the due dates listed for course activities and assignments.

2. Examinations: Examinations/quizzes are to be taken at the scheduled time. If absence is unavoidable, it is the student's responsibility to contact the instructor **prior** to the scheduled examination time. Make-up exams will only be available for exams missed with documented excused absences. Make-up exams will be offered at a designated date/time in October and December. Electronic devices are not permitted in the examination area; further, hats, coats and backpacks must be placed in designated areas prior to testing.

3. All students are expected to turn in work at the assigned date and time designated by the faculty member.

4. Excused absences are explained in the University UAR
131.04 (\url{https://www.moreheadstate.edu/MSU/media/UARs/UAR-131-04-Excused-Absences-Policy.pdf})

COURSE PROCEDURES:

1. Programs of nursing are very rigorous and require significant student study. The standard recommendation is at least three hours of study time for each hour of lecture time. Committing less time studying than recommended will likely result in poor grades and course failure.
2. A late assignment contract may be granted, at the discretion of the faculty, if circumstances warrant. When a late assignment contract is granted, the student will have 10% deducted from the grade earned on the late assignment; therefore, 90% is the maximum grade achievable for the assignment.
3. Professional Behaviors: Each student contributes to the learning of the entire class. Courteous and professional behavior is expected at all times in the classroom and clinical setting.
4. In compliance with the University's philosophy regarding attainment of general educational competencies, all written work must reflect correct spelling, punctuation, and grammar. Students are expected to communicate effectively using standard written English. Students are expected to produce clear writing that is free of distracting errors in grammar and spelling in all written assignments. Work that does not meet this expectation will be penalized accordingly. **For more information on learning lab services and programs, call the TLC at (606) 783-5105.**
5. **Academic honesty:** All students at Morehead State University are required to abide by accepted standards of academic honesty. Academic honesty includes doing one's own work, giving credit for the work of others, and using resources appropriately. Guidelines for dealing with acts of academic dishonesty can be found in the academic catalog.
6. Students are required to have an active MSU email address by the first week of class.
7. **Americans with Disabilities Act (ADA)**
   Students with disabilities are entitled to academic accommodations and services to support their access and safety needs. The Office for Disability Services in 202 Adron Doran University Center coordinates reasonable accommodations for students with documented disabilities. Although a request may be made at any time, services are best applied when they are requested at or before the start of the semester. Please contact Disability Services at 606-783-5188, e.day@moreheadstate.edu, or visit their website at www.moreheadstate.edu/disability for more information.Campus Safety Statement: Emergency response information will be discussed in class, if on campus. Students should familiarize themselves with the nearest exit routes in the event evacuation becomes necessary. You should notify your instructor at the beginning of the semester if you have special needs or will require assistance during an emergency evacuation. Students should familiarize themselves with emergency response protocols at: www.moreheadstate.edu/emergency.
8. Please refer to Morehead State University *The Eagle Student Handbook* http://www.moreheadstate.edu/dean/ for more information on Student Health Services.
9. Non-Discrimination Statement: The Department of Nursing adheres to the current Non-Discrimination Statement as published on the Affirmative Action Office webpage at: http://www.moreheadstate.edu/About/Nondiscrimination-Statement .
10. The University is committed to providing a safe and healthy working, living and learning environment for its students, faculty, staff, and visitors to our campus. The University acknowledges and supports the findings of the Surgeon General that tobacco use in any form is a significant health hazard. Use of any tobacco or tobacco by product is prohibited on all university owned or controlled property. Each student must follow the smoking policy of each clinical agency to which they are assigned. Violation of agency smoking policies will result in an unsatisfactory for the clinical. Any student who comes to clinical smelling like smoke will be sent home and given an unsatisfactory for the clinical. Second-hand smoke is detrimental to patients and it is our responsibility to protect patients at all times.

11. Student Handbook: Please refer to the Department of Nursing Student Handbook for further policies available at the MSU Department of Nursing website http://www.moreheadstate.edu/nursing/

DISTANCE EDUCATION:

1. The Information Technology (IT) Help Desk is available to students:
   606-783-HELP (4357)
   111 Ginger Hall
   Monday-Friday 08:00 am – 4:30 pm
   Email: ithelpdesk@moreheadstate.edu
2. Blackboard: You can logon to Blackboard first clicking on the "Quicklinks" tab from http://www.moreheadstate.edu/ and then selecting "Blackboard". Your course will be delivered via Blackboard. Information regarding required system specifications can be found at https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support
3. Respondus LockDown Browser: Quizzes and exams (referred to as "test/tests" in the rest of this statement) taken within this course may be administered online via Blackboard and may require the student to load the Respondus LockDown Browser onto the computer being used for the test. Respondus LockDown Browser will effectively "lock down" the browser on your computer only during the Blackboard test, prohibiting any other browsers to be opened while the test is being taken. This is a method of test security chosen by Morehead State University's Department of Nursing. Once loaded on the student's computer, and **prior to beginning each test**, students will click on the Respondus icon on their desktop. ***The process of "locking down" the browser may take up to five minutes, so please be patient. Even if it looks as though nothing is "working," it is performing the necessary functions in the background.*** **BE PATIENT!** Once the "lock down" has taken place, the student will be able to go into Blackboard and take the appropriate test. The student will be unable to exit the test until the test has been submitted.
   To download and install LockDown Browser, use this link:
   http://www.respondus.com/lockdown/download.php?id=355135518
   When you're ready to take any test, do the following:
   Start **LockDown Browser** from your desktop (remember to be patient!)
   Log into **Blackboard**, and select the appropriate course.
   Select the appropriate **test**
   Complete and submit the test
   Exit LockDown Browser.
   If you have any difficulties with the Respondus LockDown Browser, you may contact MSU Instructional Technology at:
   Phone: 606-783-2140
   Hours: 8 am-4:30 pm EST Monday-Friday
   E-mail: msuonline@moreheadstate.edu
4. Minimum student technical skills required for the course include:
   a. Navigate and use Blackboard.
   b. Access the internet via cable modem, DSL, Wifi or network interface.
   c. Understand basic computer usage including keyboard, mouse, CD drive, USB port, and printer.
   d. Use computer operating system (Windows/Mac OS) to find, copy, move rename and delete files, create folders, launch, run, and switch between software applications.
   e. Consult with Microsoft Office to create, format, edit, spell check, save print, and retrieve documents, cut, copy and paste information between and within documents; save a word processing document in text. (.doc, .docx, or rtf format).
   f. Use a web browser to open, print and/or save web pages to a local or removable storage drive, open and save PDF files, create, maintain and manage a list of web pages (favorites/bookmarks), use a search engine's basic features to find information on the web.
   g. Download and install programs from remote servers.
   h. Use email to send, receive and open file attachments.
   i. Use a webcam to communicate with course faculty. This will require a high speed internet connection.
5. Electronic Submission of Assignments:
   a. Do not take a picture of the computer screen and post. This takes up too much space and takes forever to download.
   b. Do not submit multiple files for one assignment. If you are scanning a document, scan multiple pages into one document.

c. All written assignments must be completed as a **Word (doc. or docx.), Rich Text Format (RTF) or PDF** document. If you do not have Microsoft software products you can download a free office suite that allows you to save your document as a Word, RTF or PDF document. Go to http://www.openoffice.org/ to download a copy of Open Office Writer.
d. Work that cannot be opened cannot be graded.
e. Please adhere to these guidelines. The Tutoring and Learning Center (606-783-5105) is also available to help you with computer applications.

Course Materials Required:

1. High-speed internet connection
2. Microsoft Office 2010 or newer
3. Required textbook below

TEXTBOOK:

Required:

On Course: Strategies for Creating Success in College, Career, and Life. 9th ed. Downing, S & Brennan, J. (2020).Boston, MA: Centage ISBN#978-0-357-02271-9

NURS 318: Success in College, Career and Life
Learning Schedule

All assignments are due at 4:30 p.m. Friday unless otherwise designated.
Discussion Board final posts must be submitted by Saturday at 4:30 p.m. unless otherwise specified.

Module & Date	Topic & Learning Outcomes	Self-Study & Assignments
Module 1	Planning for Success • Define success. • Understand the culture of higher education. • Differentiate between high-school and college culture. • Translate soft skills into attainment of college success. • Assimilate soft skills in your place of employment.	**Reading:** Chapters 1 **Assignments:** • Course Syllabus Agreement • Discussion #1 • Complete Self-Assessment Survey • Work on Journal Entry that is due @ the end of Module 2
Module 2	Accepting Personal Responsibility • Define personal (self) responsibility. • Define mindset. • Differentiate between a victim mindset and a creator mindset. • Distinguish between the voice of the inner critic, inner defender and the inner guide. • Review evidence-based positive and negative outcomes of alcohol consumption.	**Reading:** Chapter 2 **Assignments:** • Discussion #2 • Submit Journal #1
Module 3	Discovering Self-Motivation • Define self-motivation. • List the benefits of earning a college degree. • Discuss the value of college experiences. • Share why goal setting is important. • Describe 5 qualities for developing motivational goals. • Distinguish between the positive and negative aspect of taking drugs, even if prescribed, on the life of a college student.	**Reading:** • Chapter 3 **Assignments:** • Discussion #3 • 3 Work on journal entry that is due @ the end of Module 4
Module 4	Self-Management • Define self-management. • Differentiate between the 4 Time Management Quadrants. • Share the importance of placing events in weekly and monthly calendars. • Describe self-confidence. • List effective measures for increasing self-confidence. • Synthesize information for the impact of smoking on health.	**Reading:** Chapters 4 **Assignments:** • Discussion #4 • Journal #2
Module 5	Employing Interdependence • Define interdependence. • Explain the importance to employ interdependence in the workplace, in life situations and in college. • Know cultural differences for different	**Reading:** Chapter 5 **Assignments:** • Discussion #5 • Assertiveness Assignment

	ethnicities. • List the benefits of being assertive. • Explain the relationship between food, health, learning and success.	• Work on Journal Entry that is due @ the end of Module 6.
Module 6	Gaining Self-Awareness • Define self-awareness. • Define self-sabotage. • Apply the 3 success rules to life. • Apply personal rules to consciously chosen habits. • Examine healthy hydration choices.	**Reading:** Chapter 6 **Assignments:** • Discussion #6 • Journal #3
Module 7	Accepting Lifelong Learning • Differentiate between fixed and growth mindsets. • Share the importance of objective feedback. • Analyze different ways of learning. • Construct logical arguments. • Apply critical thinking concepts. • Distinguish between accurate and false information associated with online sites. • Develop self-respect. • Explain the importance of being physically active.	**Reading:** Chapter 7 **Assignments:** • Discussion #7 • Personal Story Essay • Work on Journal Entry that is due @ the end of Module 8.
Module 8	Moving forward to Life, Career and Collegiate Success • Understand emotional intelligence. • Apply the 4 elements of emotional intelligence. • Differentiate between healthy and unhealthy stress. • Identify positive methods for personal stress reduction. • Distinguish between safe and risky sleep patterns. • Share successful student strategies that you have improved upon since the beginning of the semester. • Analyze changes in your personal self-assessment since the beginning of the course.	**Reading:** Chapters 7-8 **Assignments:** • Discussion #8 • Complete Self-Assessment (re-evaluate) • Journal #4

Course Syllabus Agreement

I have read and understand the course description for NURS 318: Success in College, Career and Life. I understand I will be held accountable for meeting the requirements of the course in order to successfully pass NURS 318. I have had an opportunity to ask questions regarding the syllabus. I understand that any future questions should be directed to the full time faculty involved in teaching NURS 318. I also understand that I must adhere to the policies of the nursing program as stated in the Department of Nursing Student Hand book and the Morehead State University Catalog.

Student Signature **Date**

Print Name **Date**

PROGRAM
Major Revision of Existing Program
Undergraduate Curriculum Routing Form
Revised January 2019

Program: (as listed in current catalog)	Veterinary Science Area - Bachelor of Science
Department: (as listed in current catalog)	Agricultural Sciences
College: (as listed in current catalog)	College of Science

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

If question E1 or E2 in section IV is answered yes, then you (the initiator) must have a representative from Information Technology (GH 201) sign the signature sheet before it is submitted to the department curriculum committee.

( ) Approved ( ) Disapproved

Information Technology Resources Are Available (Sign and Print) Date

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

(X) Approved ( ) Disapproved 9/13/19

Department Chair or Associate Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

College Curriculum Committee (Sign and Print) Date

(X) Approved ( ) Disapproved 9/24/2019

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if program is a secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

(✓) Approved ( ) Disapproved 10/23/19

Undergraduate Curriculum Committee (Sign and Print) Date

(✓) Approved ( ) Disapproved 11-7-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Program: (as listed in current catalog)	Veterinary Science Area - Bachelor of Science
Department: (as listed in current catalog)	Agricultural Sciences
College: (as listed in current catalog)	College of Science

Helpful Information:

1. Important Definitions Used in the Curriculum Process
   - Area = a program of study comprised of at least 48 hours
   - Major = a program of study comprised of at least 30 hours, accompanied by a minor
   - Minor = a set of discipline-specific courses of at least 21 hours
   - Certificate = a series of courses related to a specific topic or skill with a prescribed number of hours. For additional information contact the Office of Academic Programs at 783-2003 or email undergraduate@moreheadstate.edu.
   - Core = a set of required courses taken by all students in a specific Area or Major
   - Track = a subset of courses within an area or major designed to develop expertise in a particular topic at the undergraduate level
   - Equated courses vs. cross-listed courses = equated courses are courses of identical content that have different prefixes (and are approved through the undergraduate curriculum process), whereas cross-listed courses have the same instructor and are offered at the same time/location.
   - Pre-requisite = course(s) that a student must successfully complete prior to registering for a more advanced course.
   - Co-requisite = course(s) that a student must take concurrently with another course.
2. An Associate's Degree normally requires at least 60 semester hours including 15 hours of prescribed general education credit.
3. A baccalaureate degree program at the undergraduate level is either an Area or a Major.
4. A program's total credit hours include program core (i.e., courses taken by all students in the program), program supplemental courses (other required hours), and program specific electives. No general education courses or free elective courses count toward total program hours.
5. Curriculum should be designed so that the program's total credit hours plus general education hours and free electives add up to 120 total hours, with 42 of the hours in upper division (i.e., 300- to 400-level) courses.
6. To ensure that students enrolled in a program have common experiences fifty percent (50%) of a program's total credit hours must be made up of core courses.
   Examples:
   a. If an Area is designed with 48 hours, then 24 or more of those hours must be in core courses. The rest of the program hours can be other program requirements that vary from student to student.
   b. If a Major is designed with 30 hours, then 15 or more of those hours must be in core courses. The remainder of the major hours can be other program supplemental courses and program specific electives that vary from student to student. The minor is not considered in calculations for this 50% rule.
   c. If a Major has 30 hours and includes tracks, the core must contain at least the same number (or

higher) of hours as the track. For example, a Major could have 15 hours in core, 9 hours in the track, and 6 hours as program electives.

7. Any proposal with a secondary education component must be routed through the Teacher Education Council.

8. Edits to the proposal may be requested at any level of review. Such edits should be made by the originator of the proposal. The originator also may be asked to address questions (in writing or in person) at any level of review.

CHECKLIST

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If an Information Technology signature is required, it has been obtained.	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The title, department, and college names correspond to the current catalog.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed.	☑
☑	Responses are complete and applicable for each question.	☑
☑	Each course pre-fix, number, and title is consistent with the current undergraduate catalog (or with revisions made in supporting curriculum proposals).	☑
☑	Each course has been reviewed for pre-requisites, co-requisites or testing requirements. There are no hidden pre-requisites, co-requisites, or testing requirements.	☑
☑	The program core contains at least 50% of the total program hours (not including general education and free elective hours)	☑
☑	The program core does not contain courses that should be listed in other sections of the proposal (i.e. Other Program Required Hours, Program Electives, etc.).	☑
☑	The program has an adequate number of area/major hours (minimum of 48 for area and minimum 30 for major).	☑
☑	The program has at least 42 upper division hours.	☑
☑	If the program is a major, hours are designated for an accompanying minor.	☑
	If the program has tracks, the total track hours do not exceed the total core hours.	
☑	The program has a maximum of 120 hours. If not, sufficient rationale is included in the proposal.	☑
☑	The curriculum maps each start on a separate page.	☑
☑	The curriculum map contains the official name of the program and track (if applicable).	☑
☑	The curriculum map contains accurate course prefix, number, and name for each course.	☑
☑	The curriculum map lists General Education courses in the first two years.	☑

☑	If the program has tracks, a separate curriculum map is included for each track.	☑
☑	The curriculum map contains EXACTLY the same courses and the same number of credit-hours as the proposal.	☑
☑	The curriculum map does not contain hidden pre-requisites or co-requisites.	☑
☑	The curriculum map codes are accurate.	☑
☑	If the program has tracks, a separate curriculum map is included for each track.	☑
☑	The total credit hours for each semester are acceptable (full-time, not overload, etc.).	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

[signature]	Philip E. Prater, DVM	9/12/19
Originator (Sign and Print)		Approval Date
[signature]	Patricia L. Harrelson	9/12/19
Department Curriculum Committee Chair (Sign and Print)		Approval Date

PROGRAM
Major Revision of Existing Program

The outline below is to be used for program revisions. Each revised or new course included in this program requires a separate "New Course or Major Revision to Existing Course" proposal. *Note: an amended curriculum map must be attached to each "Major Revision of Existing Program" proposal.*

I. EXISTING PROGRAM REVISION

State the current title of the Program (as listed in the current catalog)

Veterinary Science Area

List the degree (e.g. Bachelor of Science) and major or area (e.g. Math Major, Biology Area); as listed in the current catalog. Include tracks if applicable (e.g. Bachelor of Arts, Philosophy Major, Religious Studies Track).

Veterinary Science Area - Bachelor of Science

State the proposed revised title of the Program (if applicable)

N/A

If the degree (e.g. Bachelor of Science) and/or major or area (e.g. Math Major, Biology Area) names are changing, please list them below. Include tracks if applicable.

N/A

CIP Code - ***Contact your department chair to verify the correct CIP Code information.***

51.2501

II. NEED AND JUSTIFICATON

A. Describe the changes and justify what this proposal is requesting; what are you doing and why are you doing it?

The proposed change would simply add additional science based prefixes to the Science Elective section of the Veterinary Science (VS) degree. The reason for this is that there are numerous science electives that students can take with in biological, chemical, mathematical, physical, psychological (neuroscience) and natural sciences, even including appropriate courses that are open to students in the nursing and imaging sciences areas. These courses are beneficial for students in this degree and help to prepare them well for professional school. Although there is a specified science core, most veterinary school admissions criteria allow for any number and types of science electives at the > 300 level of rigor. This proposal describes our desire to include all pre-fixes of courses 300 level or greater in the College of Science. Allowing the broader range of elective courses also alleviates the need for frequent production and approval of course substitutions. Students will be advised by the VS advisors as to the appropriate pre-requisites that are necessary to enroll in certain 300-level courses that the student may wish to take.

B. Program *coherence* refers to 1) appropriate sequencing of courses, not a mere bundling of credits, so that 2) student learning is progressively more advanced in terms of assignments and scholarship required and 3) demonstrates progressive advancement in a field of study that allows students to integrate knowledge and grow in critical skills. The expectation that a program embodies a coherent course of study applies regardless of the mode of delivery. Describe any impacts to coherence that the proposed revision to the program may have.

There is no change in the coherence of the course of study due to this revision.

C. Have the admission requirements changed? If so, how?

No.

D. If a similar program at MSU or in Kentucky exists, provide justification for the duplication.

Although there are a number of pre-veterinary medical curricula that are embedded in other degree programs (Biology, Chemistry, Animal Science, etc.), there is no similar degree program at MSU or in Kentucky.

III. PURPOSE, GOALS, AND OBJECTIVES

A. What are the goals and objectives of this proposal? How do the proposed changes impact the program's alignment with the program's mission and goals, and/or the University's mission and goals?

The revision does not change the basic content or rigor of the Veterinary Science-Bachelor of Science program. It merely identifies a broader range of science-based electives that VS students can take. Overall, this program will provide the student with a stronger and more focused knowledge of agricultural, biological, chemical, natural, medical and physical sciences which will enhance the student's ability to perform and thrive in the pre-veterinary curriculum, a college of veterinary medicine and in the veterinary profession. These competencies include advanced knowledge of biological systems, comparative anatomy, microbiology, animal physiology, biochemistry, health issues of livestock, reproductive physiology, and biomedical physics, pharmacology, statistics, and neuroscience.

B. State the revised program outcomes or competencies to be achieved by students.

The progam outcomes will remain the same.

C. How do the specific goals and objectives relate to the mission statement of the University?

The measurable objectives of this program are as follows :
(1) To significantly increase the number of graduates with a Veterinary Science-Bachelor of Science degree.
(2) To increase the number of pre-veterinary student acceptances into American Veterinary Medical Association accredited colleges of veterinary medicine .
(3)To increase paraprofessional opportunities for Veterinary Science-Bachelor of Science graduates.

Morehead State University's Mission Statement ensures students a quality higher education experience and excellence in professional training. It also mandates dedicated service of its faculty, staff, and facility resources for the encompassing service region. The program we are proposing will enrich the student 's experience within general educational and core specific material and will enable them to be more efficient in the management of their academic endeavors. This program will set forth specific learning objectives in the baccalaureate program, so that students will have an excellent advanced foundation for the study of species and discipline specialization in the veterinary profession. Highly competent , licensed veterinarians graduating from MSU will directly impact on animal health and agricultural production in the surrounding region and throughout the United States.

D. List the methods of program assessment to be used other than course grades to ensure that the desired outcomes or competencies are attained by students. Indicate the frequency of assessment and how results will be made available to program faculty.

Overall program competencies are measured through exit exams, evaluations of the core pre-veterinary courses, capstone course projects, and acceptance rates for students entering graduate and professional (veterinary medicine) programs. These assessment tools aid in determining the effectiveness of the training provided by the Department of Agricultural Sciences and the Veterinary Science programs to its students and the colleges of veterinary medicine that accept our students. These assessment tools are staggered throughout the academic year and are made available to the MSU-Veterinary Science advisor.

E. List discipline-specific standards for accreditation in addition to Southern Association of Colleges and Schools (SACS) accreditation standards. If applicable, attach current statement of requirements.

None

IV. IMPACT

A. How will the program changes affect transfer students?

This revision does not affect students transferring in to this program.

B. List all departments and programs that could be impacted by this proposal. For example, any department or program that:

a. offers required courses for this program

b. offers elective courses for this program
c. offers similar courses in their program
d. has an equated course
e. has courses in this proposal listed as a co-requisite or pre-requisite
f. shares staff and/or resources.

Students in the VS degree program may take >300 level program electives in the following departments: Agricultural Sciences, Biology/Chemistry, Mathematics, Physics/Earth Science/Space Systems Engineering, Psychology, Nursing, Kinesiology/Health/Imaging Sciences.

C. Explain the potential impact on the other departments and programs.

The impact should be minimal because students are already taking courses in these areas, and these are elective courses and not core requirements.

D. List the individuals in the other departments and programs notified by the proposing department chair and define the method of contact (e-mail, phone conversation, etc.)

Dr. Joyce Stubbs, Ag. Science (email)
Dr. Charles Lydeard, Biology/Chemistry (email)
Dr. Lynn Parsons, Nursing (email)
Dr. Chris Schroeder, Mathmatics (email)
Dr. Greg Corso, Psychology (email)
Dr. Eric Jerde, Physics/ESS (email)
Dr. Manuel Probst, Kins/IMS (email)

E. Does this program revision require new technology? Please note that Information Technology (GH 110) should be notified when the program proposal is being developed. Early notification will allow IT an opportunity to provide quality information that can be included in the proposal request form.

☐ **Yes** ☒ **No** **(If yes, a representative from Information Technology must sign the signature sheet.)**

If yes, please list:

1. **the software to be used and its estimated cost. If there is intent to utilize the software in a lab, include the estimated cost of the server based license for the software. (IT does not install individual packages in labs, only server based versions).**

2. **the type of hardware to be utilized.**

V. PERSONNEL

A. List name(s), qualifications including highest earned degree, and academic rank(s) of departmental faculty who will teach courses in this program.

Philip Edward Prater, DVM - Professor; Lauren Mirus, DVM - Assistant Professor; Amy Staton, EdD - Assistant Professor; Scott Steele, BS - Instructor; Ashely Swim, BS - Instructor, Katie Dews, MS - Instructor; Flint Harrelson, PhD - Associate Professor; Patricia Harrelson, PhD - Associate Professor; Heather Porter, MS - Instructor; Joe Fraley, MS - Instructor; Katie Kaufman, PhD - Assistant Professor; Vijay Subramaniam, PhD - Assistant Professor; Debbie Johnson, PhD - Associate Professor; Brent Rogers, PhD - Associate Professor; Jason Holcomb, PhD - Associate Professor

Various faculty in the College of Science that teach >300 level electives. The revision does not seek approval for any specific faculty to teach these electives.

B. Identify external or adjunct faculty, if appropriate.

N/A

C. List any additional support personnel (clerical, laboratory assistants, and technicians) needed for implementation.

None needed.

D. List additional faculty including academic rank and qualifications, who must be employed during the next four years if this is implemented.

No additional faculty needed for this revision.

VI. ADDITIONAL INFORMATION

A. Identify the enrollment and number of graduates from this program for the past four years

ACADEMIC YEAR NO.	ENROLLED	NO. GRADs.
2016 VS-BS	120	10
2017 VS-BS	120	10
2018 VS-BS	115	14
2019 VS-BS	115	13

B. List anticipated enrollment and number of graduates from this program for the next four years.

ACADEMIC YEAR NO.	ENROLLED	NO. GRADs.
2020 VS-BS (anticip.)	120	16
2021 VS-BS (anticip.)	120	18
2022 VS-BS (anticip.)	120	20
2023 VS-BS (anticip.)	120	22

C. Explain any additional or remodeled facilities that will be required.

None required.

D. List any additional equipment required.

None required.

E. Provide the estimated additional cost required to support this program for the next four years. Identify source of new funds (special legislative request, system reallocation, etc.).

No new costs required.

VII. PROPOSED PROGRAM REQUIREMENTS

Please use the following template to list all Program courses. To create additional lines, tab while cursor is in the last "Course Hours" field.

Example of different types of entries. Not all programs, minors or certificates will have each type of entry.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
MSU	300	Name of course	3
MSU	400	Name of variable hour course	1-3
Variable		Free Electives	9

General Education

If the Program requires specific general education courses list them here. These courses should NOT have hours listed again in the Program requirements. (e.g. exchange courses, capstone, etc.) Remaining hours should be listed with "variable" as course prefix and "General Education" as course name with the total remaining general education hours in course hours.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
FYS	101	First Year Seminar	3
ENG	100	Writing I	3
ENG	200	Writing II	3
COMS	108	Fundamentals of Speech Communications	3
MATH	174 or 175	Pre-calculus or Calculus	3-4
BIOL	171/171L	Principles of Biology (NSC 1- Exchange)	4
CHEM	111/111L	Principles of Chemistry I (NSC 2 – Exchange)	4
AGR or VET	499C	Senior Seminar	3
HUM	1	Humanities I	3
HUM	2	Humanities II	3
SBS	1	Social / Behavioral Science I	3
SBS	2	Social / Behavioral Science II	3

Total General Education Hours	38-39

Program Core Hours

Program Core courses must be taken by all students in the program. This section cannot contain options such as "MSU 111 or MSU 112" or "choose 3 hours from the following list". Any core Track hours should be listed in the Track section.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
AGR	133/133L	Intro to Animal Science	3
AGR	143	Anatomy & Physiology of Livestock	3
AGR	243/243L	Equine Health & Disease	3
AGR	316/316L	Feeds & Feeding	3
CHEM	112/112L	Principles of Chemistry II	4
CHEM	326/326L	Organic Chemistry I	4
CHEM	327/327L	Organic Chemistry II	4
BIOL	210/210L	General Zoology	4
BIOL	301/301L	Fundamentals of Biochemistry	4
BIOL	304/304L	Genetics	3
BIOL	317/317L	Principles of Microbiology	4
BIOL	380/380L	Cell Biology	3

PHYS	201	Elementary Physics (Lecture)	3
PHYS	201A	Elementary Physics (Lab)	1

Total Program Core Hours (This total should be at least 50% or more of the Total Program Hours; not including general education hours and free elective hours).	46

Other Program Required Hours

Other Program Required Hours are required program courses with the option of choosing between two specific courses (i.e. "MSU 111 or MSU 112"). Track hours should be listed in the Track section.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours

Total Other Program Required Hours	0

Program Electives

Program Electives are a list of required program-related courses from which a student chooses a specific number of hours. (e.g. "choose 3 hours from the following list"). Track electives should be listed in the Track section.

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours
		Science Electives taken at the 300 level or greater from the College of Science course offerings.	18

Total Program Elective Hours	18

IF YOUR PROGRAM DOES NOT HAVE TRACKS, PLEASE PROCEED TO THE FREE ELECTIVE SECTION BELOW.

***Please note: If you need more than two tracks, please contact *undergraduate@moreheadstate.edu* so that the forms can be revised to fit your needs.**

Program Track Name:

Please list all Track Requirements

Course Prefix (Example: ENG)	Number (Example: 100)	Course Name	Course Hours

Total Track Hours	0

Program Track Name:			
Please list all Track Requirements			
Course Prefix (Example: ENG)	**Number (Example: 100)**	**Course Name**	**Course Hours**

Total Track Hours	0

Free Electives:			
Free General Electives are any course hours still necessary to meet the 120 hour degree requirement after all program requirements are met.			
Course Prefix (Example: ENG)	**Number (Example: 100)**	**Course Name**	**Course Hours**
General Electives		General Electives	17-18

Total Free Elective Hours	17-18

TOTAL DEGREE HOURS (Total degree hours should equal 120 or contain a rationale as to why it cannot).	120
Rationale as to why program exceeds 120 hours (if applicable):	
If there is a change to the current catalog language for program competencies, admission criteria, standardized testing requirements, etc., please list the NEW catalog language below. Do not list the old catalog language. Do not list the program courses again.	
The change in the catalog should reflect the additional options for Program Elective courses.	

Curriculum Map –Veterinary Science (Pre-veterinary Medicine)

NOTE: If you are required to complete any developmental courses, you may not be able to complete the degree in four years. This curriculum map assumes that you have not transferred in any previously completed college level courses.

All students must have 36 hours of general education courses which include:

FYS – First Year Seminar
COMS 108 – Fund. Of Speech Communication
MATH 131, 135, 152, 174 or 175 - CORE Math
ENG 100 – Core Writing I
ENG 200 – Core Writing II
Capstone

One 3 credit hour course from each of the following categories

HUM I	SBS I	NSC I
HUM II	SBS II	NSC II

The approved course list may be accessed through the current MSU Undergraduate Catalog.

FIRST YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	AGR 133 – Intro to Animal Science	R	3		AGR 143-Anatomy&Physiology of Livestock	R	3
	MATH 174 or 175 – Pre-calculus or Calculus	G	3-4		BIOL 210/210L - Zoology	R	4
	BIOL 171/171L- Principles of Biology	G,R	4		CHEM 111/111L- Chemistry I	G,R	4
	FYS 101-First Year Seminar	G	3		ENGLISH 100	G	3
	HUMANITIES 1	G	3		Social/Behavioral Science 1	G	3
	Total Credit Hours		16-17		**Total Credit Hours**		17

SECOND YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	General Elective	E	3		AGR 243/243L-Equine Health & Disease	R	3
	BIOL 304/304L – Genetics	R,U	3		CHEM 326/326L-Organic Chem I	R,U	4
	CHEM 112/112L-Chemistry II	R	4		Science Elective	E,U	3
	HUMANITIES 2	G	3		Social/Behavioral Science 2	G	3
	ENGLISH 200	G	3		COMS 108 - Speech	G	3
	Total Credit Hours		16		**Total Credit Hours**		16

THIRD YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	AGR 316/316L- Feeds & Feeding	R,U	3		BIOL 301/301L - Biochemistry	R,U	4
	CHEM 327/327L-Org. Chem. II	R,U	4		BIOL 380/380L – Cell Biology	R,U	3
	PHYS 201/201A-Physics I	R	4		Science Elective	E,U	3
	General Elective	E	3		General Elective	E	3
	Total Credit Hours		14		**Total Credit Hours**		13

FOURTH YEAR COURSE SCHEDULE

✓	Fall Semester	Code	Credits	✓	Spring Semester	Code	Credits
	BIOL 317/317L- Microbiology	R,U	4		AGR 499C/VET 499C- Senior Seminar	G,U	3
	Science Elective	E,U	3		Science Elective	E,U	3
	Science Elective	E,U	3		Science Elective	E,U	3
	General Elective	E	3		General Elective	E	3
	General Elective	E	3				
	Total Credit Hours		16		**Total Credit Hours**		12

(E) Elective (G) General Education Course
(P) Pre-requisite (R) Required Course
(U) Upper Division Course 300-400 level (you must have 42 hours)

PROGRAM
Minor Revision to an Existing Program
Undergraduate Curriculum Routing Form

Revised January 2019

Program: (as listed in current catalog)	Veterinary Technology - Associate of Applied Science
Department: (as listed in current catalog)	Agricultural Sciences
College (as listed in current catalog)	College of Science

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

(X) Approved ( ) Disapproved 8/26/19

Department Chair or Associate Dean (Sign and Print) Date

DIRK GRUPE

(X) Approved ( ) Disapproved 2019-09-10

College Curriculum Committee (Sign and Print) Date

WAYNE MILLER

(X) Approved ( ) Disapproved 9/10/2019

Dean (Sign and Print) Date

( ) Approved ( ) Disapproved

Teacher Ed. Council (if program is a secondary education program) (Sign and Print) Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Laurie L. Couch Laurie L. Couch (✓) Approved ( ) Disapproved 10/23/19

Undergraduate Curriculum Committee (Sign and Print) Date

(✓) Approved ( ) Disapproved 11-14-19

Vice President for Academic Affairs (Sign and Print) Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Program: (as listed in current catalog)	Veterinary Technology - Associate of Applied Science
Department: (as listed in current catalog)	Agricultural Sciences
College: (as listed in current catalog)	College of Science

Helpful Information:

1. Any proposal with a secondary education component must be routed through the Teacher Education Council.
2. Edits to the proposal may be requested at any level of review. Such edits should be made by the originator of the proposal. The originator also may be asked to address questions (in writing or in person) at any level of review.

CHECKLIST

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The title, department, and college names correspond to the current catalog.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed.	☑
☑	Responses are complete and applicable for each question.	☑
☑	Each course pre-fix, number, and title is consistent with the current undergraduate catalog (or with revisions made in supporting curriculum proposals).	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Originator (Sign and Print): [signature] Philip E. Prater — Approval Date: 8/22/19

Department Curriculum Committee Chair (Sign and Print): [signature] Patricia L. Hanelson — Approval Date: 8/23/19

PROGRAM
Minor Revision to an Existing Program

The following outline is to be used to report a minor modification of a previously approved program. *If the program content or method of instruction is to be modified, use the "Major Revision of an Existing Program" form.* Minor changes may include a change in program title or minor admission or completion requirements which *do not modify program content.* Please list each program change on a separate proposal form.

I. PROGRAM INFORMATION

State the current title of the program (as listed in the current catalog)

Veterinary Technology - Associate of Applied Science

State the proposed revised title of the program (if applicable)

No change.

CIP Code - *Contact your department chair or associate dean to verify the correct CIP code information.*

51.0808

II. EXPLANATION

A. Describe the change and justify what this proposal is requesting; what you are doing and why are you doing it? Content will be listed at the end of the document.

The primary change that we are making in the catalog description of our program is to add a paragraph to the MSU catalog stating that students will now need to refer to the newly formed MSU Veterinary Technology Student Handbook. The handbook is eighteen pages in length and provides a detailed description of program requirements and expectations, both in the areas of academic performance and professional behavior characteristics. Most of our peer VT programs have a separate student handbook and we have deemed that this handbook for our program is overdue. The American Veterinary Medical Association, which accredits our program for licensure, does not require this, but does recommend it as a part of a comprehensive program package to provide students with a clear understanding of program requirements and expectations. Also, due to the length of the handbook, it is not practical to place all eighteen pages of the handbook into the MSU catalog. There are also some editing components to the current catalog description that are a result of directing students to the VT Student Handbook. A copy of the student handbook is available upon request.

B. Program *coherence* refers to 1)appropriate sequencing of courses, not a mere bundling of credits, so that 2)student learning is progressively more advanced in terms of assignments and scholarship required and 3) demonstrates progressive advancement in a field of study that allows students to integrate knowledge and grow in critical skills. The expectation that a program embodies a coherent course of study applies regardless of the mode of delivery. Describe any impacts to coherence that the proposed revisions to the program may have.

There should be no negative impacts on program coherence. In fact, our hope is to provide students with a more comprehensive understanding of the programs academic and professional expectations.

C. Do the proposed changes impact the program's alignment with the program's mission and goals and/or the University's mission and goals? If yes, explain.

The proposed changes should have no impact on program or university missions or goals.

D. List all departments and programs that could be impacted by this proposal. For example, any department or program that:

a. offers required courses for this program
b. offers elective courses for this program
c. offers similar courses in their program
d. has an equated course
e. has courses in this proposal listed as a co-requisite or pre-requisite
f. shares staff and/or resources.

There is no change to the curriculum or content in our courses. No other departments should be impacted by this proposed change in the catalog.

E. Explain the potential impact on the other departments and programs.
There is no change to the curriculum or content in our courses. No other departments should be impacted by this proposed change in the catalog.

F. List each of the individuals in the other departments and programs notified by the proposing department and define the method of contact (e-mail, phone conversation, etc.)
N/A

G. If this is a change that affects the current MSU Undergraduate Catalog content, please provide the copy that is to appear in the next catalog revision.

Veterinary Technology – Associate of Applied Science
(Six-Semester Program)

The MSU veterinary technology associate program is approved by the Kentucky Veterinary Medical Association and fully accredited by the American Veterinary Medical Association. Graduates are eligible to sit for the Veterinary Technician National Exam for state licensure as a credentialed Veterinary Technician or Technologist.

The veterinary technology program has a selective admission policy which is separate from and in addition to the University's admission procedures and the program has limited enrollment. In the event there are more qualified applicants than positions, students with the highest college GPA will be accepted. Admission to the University does not guarantee admission to the veterinary technology program. The associate degree in veterinary technology is a face-to-face program with classes requiring attendance on the Morehead campus. It is not an online program and classroom and laboratory attendance is expected.

In addition to acceptance by the University, applicants must apply for admission to the veterinary technology associate program and meet the following criteria:

Admission Requirements
Note: Enrollment in the AAS Veterinary Technology curriculum will be limited to 40 students.

In order to be admitted to the AAS Veterinary Technology Program, the student must obtain:

1. Admission to Morehead State University.
2. Admission to Veterinary Technology Program.
   a)Prerequisite Courses and GPA Requirements:
   - Students entering the core veterinary technology curriculum from the pre-vet tech curriculum must have a college GPA of 2.8 or greater in non-developmental, college level courses 100-level or above to be accepted into the veterinary technology program and a 2.6 or greater GPA in specified science and math courses (MATH 131 or higher approved general education math, BIOL 105, and CHEM 101 or higher). Grades in required AGR, BIOL, CHEM and MATH courses must be "C" or better.
   - Transfer students must have a college GPA of 2.8 or greater in 12 or more hours of non-developmental, college level courses 100-level or above to be accepted into the veterinary technology program and a 2.6 or greater GPA in specified science and math courses (MATH 131 or higher approved general education math, BIOL 105 or transfer equivalent, and CHEM 101 or higher). Grades in required BIOL, CHEM and MATH courses must be "C" or better.
   - Approved non-developmental, college-level course work may include:
     - General education courses applicable to the Veterinary Technology Associate Degree Program;
     - Animal science, biology, chemistry, mathematics, computer skills, medical terminology, office management or ethics.

   b) All applicants:
   - Minimum 120 hours of documented veterinary supervised work/volunteer experience.

- Written recommendation from the above veterinarian.
- Complete the Periodic Animal Contact Health Assessment (PACHA).
  - Veterinary Technology students must possess the health, physical capability, and risk assessment compatible with working with live animals in a veterinary medical context. The PACHA requirements are designed to assure adequate ability to work with live animals, perform the required tasks and avoid undue risk of injury or disease.
  - Confidentiality of PACHA status: It is not required that any student divulge confidential medical information to the program faculty. They must only verify, through their physician, that they meet the PACHA requirements.
  - Compliance in MSU Occupational Health for Animal Workers program which includes risk training, risk assessment, and tetanus and pre-exposure rabies immunization requirements.

Veterinary Technology Student Handbook

The Veterinary Technology Program Student Handbook is a supplement to the Morehead State University Undergraduate Catalog. The student handbook contains policies and guidelines related specifically to Morehead State University's Veterinary Technology Program. The handbook is reviewed and revised annually.

It is the student's responsibility to read the University Undergraduate Catalog, the Veterinary Technology Program Student Handbook, and the official notices. It is the student's responsibility to abide by the regulations of the University and the guidelines and policies set forth in the Veterinary Technology Program Student Handbook.

Program Competencies

Students receiving an Associate of Applied Science degree in Veterinary Technology should possess competencies in the following areas as defined by the American Veterinary Medical Association:

1. General Competencies:
   - Written, oral and interpersonal communication skills.
   - Applied mathematical skills applicable to the field of veterinary technology.
   - An awareness of the physical and biological concepts applicable to the field of veterinary technology.
   - An appreciation of the liberal arts.
2. Specific Competencies:
   - Anesthesia, including induction, monitoring and instrumentation.
   - Animal husbandry, restraint, behavior, breed identification, reproduction, and human-animal bonding.
   - Diseases, preventive medicine, nursing of companion animals, food animals, horses and laboratory animals.
   - Economics of veterinary practice.
   - Ethics, professionalism and legal applications in veterinary medicine.
   - Humane animal care and management.
   - Basic laboratory animal technology.
   - Medical terminology.
   - Necropsy techniques.
   - Nutrition and principles of feeding.
   - Orientation to the vocation of veterinary technology.
   - Pharmacology for veterinary technicians.
   - Principles of imaging, including radiography and ultrasonography.
   - Professional organizations and continuing education for graduate technicians.
   - Surgical nursing and assisting, including instrumentation.

- Technician utilization and team concepts of healthcare delivery.
- Veterinary anatomy and physiology.
- Veterinary clinical pathology and parasitology.
- Veterinary microbiology and immunology.
- Veterinary office management.
- Elementary computer skills pertaining to veterinary technology.
- Zoonoses, occupational health hazards and waste disposal.

3. In addition, students should have the skills to assume responsibility for self-development and lifelong learning.

Assessment

1. Advisory Board consultation
2. Evaluation by accrediting organization (AVMA)
3. Exit examination
4. Survey of employers
5. Survey of graduates
6. Graduate performance on the Veterinary Technician National Exam

Program Requirements

General Education

Students must complete the general education requirements for an Associate of Applied Sciences degree. Any course approved by the University for each of the following categories may be taken, unless otherwise specified:

MATH 131 or higher	MATH General Education	3
ENG 100	Writing I	3
ENG 200	Writing II	3
COMS 108	Fundamentals of Speech Communication	3
FYS 101	First Year Seminar	3
	Total Credit Hours:	15

Associate Requirements

AGR 133	Introduction to Animal Science	3
AGR 143	Anatomy and Physiology of Livestock	3
BIOL 105	Biology for Your Life	3
CHEM 101 or 111	(choose one)	4
VET 108	Veterinary Clinical Anatomy	3
VET 112	Animal Care Techniques I	4
VET 213	Animal Care Techniques II	4
VET 218	Intro to Veterinary Laboratory Techniques	4
VET 219	Surgical Nursing	3
VET 245	Veterinary Physiology and Pharmacology	4
VET 246	Anesthesia and Analgesia	
VET 257	Concepts of Large Animal Diseases I	2
VET 258	Small Animal Medicine and Surgery I	2
VET 259	Veterinary Clinical Pathology I	2
VET 260	Veterinary Diagnostic Imaging	2
VET 261	Large Animal Clinics I	1
VET 262	Small Animal Clinics I	1
VET 264	Veterinary Clinical Pathology Clinics I	1

VET 265	Veterinary Diagnostic Imaging Clinics I	1
VET 301	Emergency and Critical Care	2
VET 357	Concepts of Large Animal Diseases II	2
VET 358	Small Animal Medicine and Surgery II	2
VET 359	Veterinary Clinical Pathology II	2
VET 363	Veterinary Preceptorship	1
VET 364	Veterinary Clinical Pathology Clinics II	1
VET 365	Veterinary Dentistry Clinics	1
VET 366	Veterinary Dentistry	2
VET 367	Large Animal Clinics II	1
VET 368	Small Animal Clinics II	1
VET 399C	Veterinary Technician Seminar	1
	Total Credit Hours:	65

Academic Progress Statement
Once admitted to the program, students must demonstrate adequate academic progress by earning a grade of "C" or better in all required VET courses.

Any required VET course in which a grade less than "C" is earned must be repeated with a grade of "C" or better prior to advancing in the program.

Dismissal from the program:
A student will be dismissed from the program for any of the following situations:

1. Earning a grade less than "C" or withdrawing while failing from the same required VET course more than once;
2. Earning a a grade less than "C" or withdrawing while failing from two different required VET courses;
3. Inability to complete the program within four academic years of beginning the program.
4. Students that are dismissed from the program twice are not eligible for reapplication.

Reinstatement to the program
Once dismissed from the program, a student must reapply to the program and be readmitted. Readmitted students must complete all courses in the VET sequence as if starting for the first time.

Reinstatement into the program is not automatic. Reapplicants must demonstrate both the aptitude and motivation to succeed in the program. Those seeking reinstatement to the VET course sequence must do the following:

By May 30:
1. Submit transcripts of college courses at the end of the current semester (unofficial copy of transcripts is acceptable).
2. Provide the name and address of the veterinary facility where obtaining additional work experience. Include the dates and hours per week.
3. Submit a letter explaining what will be done differently to succeed in the VT program if reinstated. This should include plans for study, time management, etc.

By July 15:
1. Submit a letter describing in detail work experience during the past 12 months and explaining why you wish to become a credentialed veterinary technician.
2. Complete any HPCR requirements that are not current (e.g., rabies vaccinations).

Re-applicants will be required to complete an interview process once the above documents are received and reviewed. Failure to meet the above deadlines will cancel the reapplication process. Readmission will be granted only if the above criteria are met to the satisfaction of the VT faculty and there are class seats available.

Reapplicants will be notified by Aug. 1 whether their petition for readmission has been granted.

PROGRAM
Minor Revision to an Existing Program
Undergraduate Curriculum Routing Form

Revised January 2019

Program: (as listed in current catalog)	Veterinary Technology Area - Bachelor of Science
Department: (as listed in current catalog)	Agricultural Sciences
College (as listed in current catalog)	College of Science

The proposal form language and formatting cannot be altered in any way. If the form has been altered, it will be returned to the initiator for revision.

Please note: it is the initiator's responsibility to track a proposal through the approval process.

Signatures *(Signatures must be handwritten; electronic signatures are not accepted.)*

The Departmental Curriculum Committee Chair will review and complete the checklist on the next page to indicate their approval.

Departmental Curriculum Committee

Department Chair or Associate Dean (Sign and Print) — (X) Approved ( ) Disapproved — 8/26/19 Date

College Curriculum Committee (Sign and Print) — DIRK GRUPE — (X) Approved ( ) Disapproved — 2019-09-10 Date

Dean (Sign and Print) — WAYNE MINER — (X) Approved ( ) Disapproved — 9/10/2019 Date

Teacher Ed. Council (if program is a secondary education program) (Sign and Print) — ( ) Approved ( ) Disapproved — Date

Once the proposal has been approved through the above levels, the initiator will route the FINAL paper document to Howell McDowell 204 and submit the FINAL electronic WORD document to undergraduate@moreheadstate.edu (the two documents must be exactly the same).

Undergraduate Curriculum Committee (Sign and Print) — Laurie L. Conch — (X) Approved ( ) Disapproved — 10/23/19 Date

Vice President for Academic Affairs (Sign and Print) — (X) Approved ( ) Disapproved — 11-4-19 Date

COVER SHEET

This sheet (including the Checklist) MUST accompany the paper hard copy of the proposal that is routed through the signature process.

Program: (as listed in current catalog)	Veterinary Technology Area - Bachelor of Science
Department: (as listed in current catalog)	Agricultural Sciences
College: (as listed in current catalog)	College of Science

Helpful Information:

1. Any proposal with a secondary education component must be routed through the Teacher Education Council.
2. Edits to the proposal may be requested at any level of review. Such edits should be made by the originator of the proposal. The originator also may be asked to address questions (in writing or in person) at any level of review.

CHECKLIST

The initiator will review the final document and complete the checkboxes on the left side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the Department Curriculum Committee Chair for their review.

The Department Curriculum Committee Chair will review the document and complete the checkboxes on the right side of the page, sign and date the Cover Sheet, and submit the paper hard copy of the complete proposal to the next level.

Initiator		Department Curriculum Committee Chair
☑	The curriculum proposal form has not been altered (formatting, font, etc.).	☑
☑	If a Teacher Education Council signature is required, the next approval level will be notified so that it can be obtained.	☑
☑	Grammar, spelling, punctuation, sentence structure, etc. is accurate.	☑
☑	The title, department, and college names correspond to the current catalog.	☑
☑	The impacted departments, programs, the individuals notified, and the method of notification are listed.	☑
☑	Responses are complete and applicable for each question.	☑
☑	Each course pre-fix, number, and title is consistent with the current undergraduate catalog (or with revisions made in supporting curriculum proposals).	☑
☑	The entire proposal is saved as one Word document.	☑

My signature verifies that I have reviewed the proposal and it is ready to go to the next level.

Philip E. Prater — 8/22/19

Originator (Sign and Print) — Approval Date

Patricia L. Harrelson — 8/23/19

Department Curriculum Committee Chair (Sign and Print) — Approval Date

PROGRAM
Minor Revision to an Existing Program

The following outline is to be used to report a minor modification of a previously approved program. *If the program content or method of instruction is to be modified, use the "Major Revision of an Existing Program" form.* Minor changes may include a change in program title or minor admission or completion requirements which *do not modify program content.* Please list each program change on a separate proposal form.

I. PROGRAM INFORMATION

State the current title of the program (as listed in the current catalog)

Veterinary Technology Area - Bachelor of Science

State the proposed revised title of the program (if applicable)

No change.

CIP Code - ***Contact your department chair or associate dean to verify the correct CIP code information.***

51.0808

II. EXPLANATION

A. Describe the change and justify what this proposal is requesting; what you are doing and why are you doing it? Content will be listed at the end of the document.

The primary change that we are making in the catalog description of our program is to add a paragraph to the MSU catalog stating that students will now need to refer to the newly formed MSU Veterinary Technology Student Handbook. The handbook is eighteen pages in length and provides a detailed description of program requirements and expectations, both in the areas of academic performance and professional behavior characteristics. Most of our peer VT programs have a separate student handbook and we have deemed that this handbook for our program is overdue. The American Veterinary Medical Association, which accredits our program for licensure, does not require this, but does recommend it as a part of a comprehensive program package to provide students with a clear understanding of program requirements and expectations. Also, due to the length of the handbook, it is not practical to place all eighteen pages of the handbook into the MSU catalog. There are also some editing components to the current catalog description that are a result of directing students to the VT Student Handbook. A copy of the student handbook is available upon request.

B. Program *coherence* refers to 1)appropriate sequencing of courses, not a mere bundling of credits, so that 2)student learning is progressively more advanced in terms of assignments and scholarship required and 3) demonstrates progressive advancement in a field of study that allows students to integrate knowledge and grow in critical skills. The expectation that a program embodies a coherent course of study applies regardless of the mode of delivery. Describe any impacts to coherence that the proposed revisions to the program may have.

There should be no negative impacts on program coherence. In fact, our hope is to provide students with a more comprehensive understanding of the programs academic and professional expectations.

C. Do the proposed changes impact the program's alignment with the program's mission and goals and/or the University's mission and goals? If yes, explain.

The proposed changes should have no impact on program or university missions or goals.

D. List all departments and programs that could be impacted by this proposal. For example, any department or program that:

a. offers required courses for this program
b. offers elective courses for this program
c. offers similar courses in their program
d. has an equated course
e. has courses in this proposal listed as a co-requisite or pre-requisite
f. shares staff and/or resources.

There is no change to the curriculum or content in our courses. No other departments should be impacted by this proposed change in the catalog.

E. Explain the potential impact on the other departments and programs.

There is no change to the curriculum or content in our courses. No other departments should be impacted by this proposed change in the catalog.

F. List each of the individuals in the other departments and programs notified by the proposing department and define the method of contact (e-mail, phone conversation, etc.)

N/A

G. If this is a change that affects the current MSU Undergraduate Catalog content, please provide the copy that is to appear in the next catalog revision.

Veterinary Technology Area – Bachelor of Science

Students (including transfer) entering the Bachelor of Science in veterinary technology program must have completed a degree from an AVMA accredited veterinary technology program. Those students that have completed the AAS in veterinary technology from Morehead State University may be able to complete the VT-BS degree in two additional semesters with careful planning and counsel from their advisor.

Veterinary Technology Student Handbook

The Veterinary Technology Program Student Handbook is a supplement to the Morehead State University Undergraduate Catalog. The student handbook contains policies and guidelines related specifically to Morehead State University's Veterinary Technology Program. The handbook is reviewed and revised annually.

It is the student's responsibility to read the University Undergraduate Catalog, the Veterinary Technology Program Student Handbook, and the official notices. It is the student's responsibility to abide by the regulations of the University and the guidelines and policies set forth in the Veterinary Technology Program Student Handbook. (The program requirements section will remain as is.)