

2017-2018 Motion Addendums

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17-18.05—Motion to Create a Crime Analysis Minor



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Cover Sheet for Proposal to the Undergraduate Curriculum and Catalog Review Committee

Date: December 14, 2016

Department: Criminal Justice

Current Course or Program ID: NA

Proposal Number:

(Assigned by the Registrar)

Contact Person: Dr. Rachel Santos
(rsantos5@radford.edu)

Proposal Category: (✓ all that apply). A cover sheet must be submitted for each proposal.

Course Prerequisite Change

Course Credit Hour Change

Course Title Change

New Course

Course Deletion

Change to Official Detailed Course Description (formerly referred to as Official Course Syllabus)

Course Number Change

Change to Catalog Description

Program Revision

Minor Change to Course

New Program
(Major, minor, or certificate)

Other Proposal Requirements: (✓ as applies and attach form)

For New Course Proposals, attach the New Course Proposal with appropriate signatures.

Proposal Description with Rationale: (State current status, proposed change, and why the change is desired. Attach additional sheets if necessary).

Currently, the Criminal Justice Department offers an online crime analysis certificate at the post-baccalaureate level. Introduction of the Crime Analysis Minor at the undergraduate level will provide students with the theoretical and methodological foundation of skills and knowledge for a viable avenue for graduate school and/or future employment. Note that the Crime Analysis Minor provides theoretical and methodological knowledge and skills at the undergraduate level where at the graduate level, students pursue and produce knowledge in research of crime analysis and more advanced temporal, spatial, and statistical techniques and critical thinking.

Effective Date: Fall 2018

Reason for requesting an alternative effective date:

| Signature | Title | Date |
|--|--|------|
| | Department Curriculum Committee Chair | |
| | Department Chair | |
| | College Curriculum Committee Chair | |
| | College Dean | |
| If this proposal in any way affects a professional education program, it must be submitted to and approved by the Professional Education Committee and the Faculty Senate: | | |
| | Professional Education Committee Chair | |
| | Core Curriculum Advisory Committee Chair | |
| | Faculty Senate President | |
| | UG Curriculum & Catalog Review Committee | |
| | Provost and VP for Academic Affairs | |

Proposal for a New Program

Proposed Program:

Crime Analysis Minor

The crime analysis minor is designed to provide theoretical and methodological background in crime analysis. This is an emerging profession and process in which a set of quantitative and qualitative methods are used to analyze crime, disorder, quality of life, traffic, and other police data to support police agencies' criminal investigation and prosecution, patrol activities, crime prevention and reduction strategies, problem solving, and the evaluation of police efforts. The minor does not cover forensic laboratory work or psychological profiling, and those students specifically interested in working in those areas should consider majoring in biology, chemistry, and/or psychology, respectively.

Regardless of major, students may complete 21 hours of coursework to earn the crime analysis minor. Requirements for the minor are:

1. CRJU 100 (3 credits) is the prerequisite for CRJU classes, so students will need to complete CRJU 100 with a "C" or higher in order to take the courses in the minor regardless of major.
2. Five additional courses are required (18 credits): CRJU 310: Introduction to Crime Analysis and the Profession (3 credits); CRJU 311: Crime Analysis Data and Technology (Lab) (4 credits); CRJU 405: Tactical Crime Analysis (Lab) (4 credits); CRJU 406: Strategic and Administrative Crime Analysis (Lab) (4 credits); CRJU 460: Crime Analysis Capstone Project(3 credits)
3. A grade of "C" or higher is required for courses to count toward the minor.
4. The classes for this minor can also fulfill CRJU elective requirements.

Proposed Program:

Crime Analysis Minor: Background Information

The Crime Analysis Minor is a course of study intended to provide criminal justice students a foundation of knowledge and skills that will translate to careers as a crime analyst. Crime analysis is a profession and process in which a set of quantitative and qualitative techniques are used to analyze data valuable to police agencies and their communities. It includes the analysis of crime and criminals, crime victims, disorder, quality of life issues, traffic issues, and internal police operations, and its results support criminal investigation and prosecution, patrol activities, crime prevention and reduction strategies, problem solving, and the evaluation of police efforts.

Crime analysis is a rapidly growing, emergent profession in the larger criminal justice field. There is increased emphasis on hiring trained, skilled analysts at the local, state, and Federal levels. Although senior level crime analysts have advanced degrees, the educational requirement for an entry level crime analyst is typically a bachelor's degree. Most job advertisements indicate that hiring agencies are looking for criminal justice majors or other social and behavioral science majors. A student with a criminal justice, psychology, or sociology major and a minor in crime analysis would be well situated to enter this career field.

Currently, the Criminal Justice Department offers an online crime analysis certificate at the post-baccalaureate level. Introduction of the Crime Analysis Minor at the undergraduate level will provide students with the foundation of skills and knowledge for a viable avenue for future employment. As well, it will encourage them to remain at Radford University to extend their crime analysis education within the crime analysis graduate certificate program and potentially as a student in the criminal justice graduate program. Note that the Crime Analysis Minor provides introductory and undergraduate level skills and knowledge where at the graduate level, students pursue knowledge in research of crime analysis and more advanced temporal, spatial, and statistical techniques and critical thinking.

The Crime Analysis Minor includes six courses that amount to 21 credits that provide an introduction to the crime analysis field as well as and provide knowledge of crime analysis data and skills in relevant technology at the 300-level and more in depth knowledge and skills at the 400-level. CRJU 100 (3 credits) is the prerequisite for CRJU classes, so students will need to complete CRJU 100 with a "C" or higher in order to take the courses in the minor regardless of major. The CRJU 310 and CRJU 311 courses are prerequisites for the CRJU 405 and CRJU 406 courses. Students take the Capstone course (CRJU 460) towards the end of the minor. These classes would also count for electives in the criminal justice major and/or for general education requirements.

The courses are titled and curriculum reflects the most recent definitions of crime analysis developed by the International Association of Crime Analysts. By doing this, potential students and future employers of Radford graduates will recognize the course titles as being directly related to standard crime analysis practice. Below the table is the catalog description for each course, the book/readings, and a short explanation of the delivery. The following table contains the courses and their corresponding credit hours followed by their course descriptions:

| Course Number | Course Name | Credit Hours |
|-----------------------|---|--------------|
| CRJU 100 | Introduction to Criminal Justice | 3 |
| CRJU 310 | Introduction to Crime Analysis and the Profession | 3 |
| CRJU 311 | Crime Analysis Data and Technology | 4 |
| CRJU 405 | Tactical Crime Analysis | 4 |
| CRJU 406 | Strategic and Administrative Crime Analysis | 4 |
| CRJU 460 | Crime Analysis Capstone Project | 3 |
| Total Hours for Minor | | 21 |

1. CRJU 100: Introduction to Criminal Justice: 3 credits

Prerequisites: None. Survey of the American criminal justice system and processes, crime, criminal law, law enforcement, prosecution, adjudication, corrections, juvenile justice, and performance evaluations.

2. CRJU 310: Introduction to Crime Analysis and the Profession: 3 credits

Prerequisites: CRJU 100 or permission of the instructor. Survey of the foundation and techniques of crime analysis and the crime analysis profession as it is practiced in modern public safety agencies.

3. CRJU 311: Crime Analysis Data and Technology (Lab): 4 credits

Prerequisites: CRJU 100 or permission of the instructor. Introduces students to data and technology used within the criminal justice system and for crime analysis. Skills taught include data collection and collation as well as use of specific software applications to conduct crime analysis.

4. CRJU 405: Tactical Crime Analysis (Lab): 4 credits

Prerequisites: CRJU 100, CRJU 310, and CRJU 311, or permission of the instructor. Examination of the specific data, techniques, and application of tactical crime analysis as they relate to repeat criminal intelligence analysis, repeat incident analysis, crime pattern identification, and dissemination of results.

5. CRJU 406: Strategic and Administrative Crime Analysis (Lab): 4 credits

Prerequisites: CRJU 100, CRJU 310, and CRJU 311, or permission of the instructor. Examination of the specific data, techniques, and application of strategic and administrative crime analysis as they relate to problem analysis, long-term quantitative trend and spatial analysis, and crime analysis for accountability.

6. CRJU 460: Crime Analysis Capstone Project: 3 credits

Prerequisites: CRJU 100, CRJU 310, and CRJU 311; CRJU 405 or CRJU 406; or permission of the instructor. Students complete their own crime analysis project from data acquisition to presentation of findings. Students also critically examine current crime analysis products and techniques to be prepared for a career in crime analysis.

17-18.09—Motion concerning Changes to the Syllabi of University Core A, as part of the Core Curriculum

CORE 101 MASTER SYLLABUS

1. Catalog Entry

Core 101

Essentials of Written and Oral Communication Three hours lecture (3)

Introduction to college-level reading, writing, and speaking, with attention given to the writing process, genre, style, audience, and standard written English. The course will also introduce students to basic oral communication skills. The course has been approved for Core Curriculum credit in University Core A.

Detailed Description of Course

The course uses five major components to organize instruction:

- the composing process;
- the relationship of reading, writing, speaking, and critical thinking;
- rhetorical principles that inform successful communication;
- the generation of ideas;
- the synthesis of complex information.

Students examine both writing done by others and their own writing to determine how subject, audience, purpose, and context provide choices and constraints for the writer and speaker.

They read, discuss, and analyze college-level texts.

Students also write essays that receive written and oral responses from both the instructor and classmates, which guide the process of revision. Concepts of interpersonal and small group communication are introduced in the context of student-teacher conferencing and peer review sessions.

Detailed Description of Conduct of Course

The course will include both formal and informal essays. Students will compose multiple drafts of each essay in response to peer and instructor comments. Students will appropriately communicate in class discussions and individual and group conferences. Instructors may choose readings in order to develop the theme of the course.

Goals and Objectives of the Course.

This course combines the goals and objectives of the four Core A areas, which are to be fulfilled by the entire Core A sequence. Learning outcomes for have been constructed according to these goals:

Upon completion of University Core A, Radford University students will have achieved competency in four key concept areas: written communications, oral communication, critical thinking, and information literacy.

Goal 1: *Radford University students will be able to prepare coherent and well-written essays that effectively integrate material from a variety of sources. By the completion of Core 101, Radford University students will be able to:*

- Effectively synthesize and integrate arguments and information.
- Construct a coherent, cohesive essay with a clear sense of purpose.
- Show control over syntax, grammar, punctuation, and spelling to communicate in a style that is clear and appropriate for the purpose and audience of the assignment.

Goal 2: *Radford University students will be able to deliver an effective and organized oral presentation and appropriately communicate in interpersonal and small group settings.*

- Appropriately communicate in class discussions and individual and group conferences.

Goal 3: *Radford University students will learn to distinguish knowledge from opinion, challenge ideas, and develop reasonable strategies for belief formation. By the completion of Core 101, Radford University students will be able to:*

- Distinguish knowledge from opinion.
- Effectively construct an argument examining multiple sides of a complex issue.
- Apply appropriate supporting evidence within a well-reasoned argument.

Goal 4: *Radford University students will be able to locate, evaluate, and cite information. By the completion of Core 101, Radford University students will be able to:*

- Appropriately use a documentation style to cite other people's work.

Assessment Measures

Assessment of Students. Students will produce a number of informal and formal essays which will be graded according to the course goals, as outlined above. Individual course syllabi will articulate the connections among the assignments, activities, and course goals.

Assessment of Curriculum. For Core A programmatic assessment, individual student competencies will be measured by the instructor using the prescribed assessment tool according to the four course goals. Assessment will be conducted at the end of each semester.

Other Course Information

2. Review and Approval

Approved Core Curriculum Advisory Committee,

Approved by Faculty Senate,

CORE 102 MASTER SYLLABUS

1. Catalog Entry

CORE 102

Advanced Written and Oral Communication

Three hours lecture (3)

Prerequisite: CORE 101

Further development of students' writing and speaking skills with attention to applied critical thinking and information literacy. The course will reinforce and develop elements of students' reasoning and critical thinking and the use of these skills in written and oral communication. This course has been approved for Core Curriculum credit in University Core A.

2. Detailed Description of Content of Course

This course continues the emphasis of the Core sequence on the composing process, and the relationship between reading, critical thinking, writing, and speaking, but also:

- The rhetorical principles that inform successful oral and written communication;
- Key concepts in argumentation;
- Research as inquiry, using both print and digital sources to gather information on a topic;
- Evaluation of the quality of information;
- Role of information as evidence to support arguments;
- Effective organizational structure in an oral presentation;
- Effective delivery techniques and language in an oral presentation;
- Basic research techniques to locate information;
- Critical evaluation of sources using appropriate criteria.

3. Detailed Description of Conduct of Course

The course will include both formal and informal writing exercises. Students will develop competency in information literacy and will learn the basic mechanics of public speaking by making oral presentations. Instructors may choose readings in order to develop the theme of the course.

4. Goals and Objectives of the Course

This course combines the goals and objectives of the four Core A areas, which are to be fulfilled by the entire Core A sequence. Learning outcomes for have been constructed according to these goals:

Upon completion of University Core A, Radford University students will have achieved competency in four key concept areas: written communications, oral communication, critical thinking, and information literacy.

Goal 1: *Radford University students will be able to prepare coherent and well-written essays that effectively integrate material from a variety of sources. By the completion of Core 102, Radford University students will be able to:*

- Effectively synthesize and integrate arguments and information.
- Construct a coherent, cohesive essay with a clear sense of purpose.
- Show control over syntax, grammar, punctuation, and spelling to communicate in a style that is clear and appropriate for the purpose and audience of the assignment.

Goal 2: *Radford University students will be able to deliver an effective and organized oral presentation and appropriately communicate in interpersonal and small group settings. By the completion of Core 102, Radford University students will be able to:*

- Appropriately communicate in class discussions and individual and group conferences.
- Use an effective organizational pattern in an oral presentation.
- Use effective delivery techniques and language in an oral presentation.

Goal 3: *Radford University students will learn to distinguish knowledge from opinion, challenge ideas, and develop reasonable strategies for belief formation. By the completion of Core 102, Radford University students will be able to:*

- Distinguish knowledge from opinion.
- Effectively construct an argument examining multiple sides of a complex issue.

- Apply appropriate supporting evidence within a well-reasoned argument.

Goal 4: *Radford University students will be able to locate, evaluate, and cite information. By the completion of Core 102, Radford University students will be able to:*

- Appropriately use a documentation style to cite other people's work.
- Utilize basic research techniques to locate information.
- Critically evaluate sources using appropriate criteria.

5. Assessment Measures

Students. Students will produce a number of informal and formal essays which will be graded according to the course goals, as outlined above. Individual course syllabi will articulate the connections among the assignments, activities, and course goals.

Assessment of Curriculum. For Core A programmatic assessment, individual student competencies will be measured by the instructor using the prescribed assessment tool according to the four course goals. Assessment will be conducted at the end of each semester.

Other Course Information

Review and Approval

Approved Core Curriculum Advisory Committee,

Approved by Faculty Senate,

CORE 201 MASTER SYLLABUS

Topics in Critical Inquiry

1. Catalog Entry

CORE 201

Topics in Critical Inquiry

Three hours lecture (3).

Prerequisite: CORE 102 or CORE 103

Further development of students' skills in critical thinking, including how to recognize, analyze, and evaluate arguments in written and oral communication. Students will continue to develop competency in information literacy as they create their own persuasive arguments.

2. Detailed Description of Content of Course

This course continues the emphasis of the Core sequence on the writing process, the relationship between reading, thinking, writing, and speaking, and on the principles that inform successful oral and written communication. Key concepts in public speaking, such as appropriate language and delivery choices will be reinforced. Students will be introduced to common forms of reasoning, such as generalizations, analogies, causal arguments, and basic deduction. Students will also learn to identify common mistakes in reasoning and understand why these represent poor critical thinking.

The course will include projects that require students to research a topic, understand the major viewpoints that surround it, select the viewpoint grounded in evidenced based thinking, and defend that viewpoint in an oral presentation. Students will continue to hone skills in research as inquiry, using both print and digital sources to gather information on a topic which will then be used as evidence to support their arguments. Students will continue to develop skills in the use of sources, learning to integrate source information into the extended chain of reasoning within the course projects.

Students will also continue to develop their reading skills by analyzing and critiquing multiple texts. In the process of such critique, students will evaluate differing views on various issues, and apply skills related to critical thinking required for intellectual objectivity.

3. Detailed Description of Conduct of Course

Each section of the course will be designed around a theme chosen by the instructor that will guide the choice of readings, assignment topics, and other classroom activities. Course themes are selected to promote critical inquiry and develop skills in oral communication, written communication, and information literacy. Instructors will choose readings in order to develop the theme of the course and assist students with developing the skills needed to attain the goals and objectives for the course listed below.

4. Goals and Objectives of the Course.

This course combines the goals and objectives of the four Core A areas, which are to be fulfilled by the entire Core A sequence. Learning outcomes for have been constructed according to these goals:

Upon completion of University Core A, Radford University students will have achieved competency in four key concept areas: written communications, oral communication, critical thinking, and information literacy.

Goal 1: *Radford University students will be able to prepare coherent and well-written essays that effectively integrate material from a variety of sources. By the completion of Core 201, Radford University students will be able to:*

- Effectively synthesize and integrate arguments and information.
- Construct a coherent, cohesive essay with a clear sense of purpose.
- Show control over syntax, grammar, punctuation, and spelling to communicate in a style that is clear and appropriate for the purpose and audience of the assignment.

Goal 2: *Radford University students will be able to deliver an effective and organized oral presentation and appropriately communicate in interpersonal and small group settings. By the completion of Core 201, Radford University students will be able to:*

- Use an effective organizational pattern in an oral presentation.
- Use effective delivery techniques and language in an oral presentation.

Goal 3: *Radford University students will learn to distinguish knowledge from opinion, challenge ideas, and develop reasonable strategies for belief formation. By the completion of Core 201, Radford University students will be able to:*

- Distinguish knowledge from opinion.

- Effectively construct an argument examining multiple sides of a complex issue.
- Apply appropriate supporting evidence within a well-reasoned argument.

Goal 4: Radford University students will be able to locate, evaluate, and cite information. By the completion of Core 201, Radford University students will be able to:

- Appropriately use a documentation style to cite other people's work.
- Utilize basic research techniques to locate information.
- Critically evaluate sources using appropriate criteria.

5. Assessment Measures

Students will produce formal texts, spoken and written, which will be assessed according to the course goals as outlined above. Individual course syllabi will articulate the connections among course assignments, activities, and course goals. For Core A program assessment, individual student competencies will be measured by the instructor using the prescribed assessment tool according to the four course goals. Assessment will be conducted at the end of each semester.

6. Other Course Information

7. Review and Approval

Approved Core Curriculum Advisory Committee,

Approved by Faculty Senate,

CORE 202 MASTER SYLLABUS

Topics in Ethical Inquiry

1. Catalog Entry

CORE 202

Topics in Ethical Inquiry

Three hours lecture (3).

Prerequisite: CORE 201

Further development in students' skills in critical thinking, information literacy, and written and oral communication. This course focuses on ethical analysis of complex topics. Students will strengthen their skills in the recognition, analysis, and evaluation of written and oral arguments. Students will work in teams to effectively examine ethical problems or dilemmas.

2. Detailed Description of Content of Course

This course continues the emphasis of the Core sequence on the composing process, the relationship between reading, thinking, writing, and speaking, and on the rhetorical principles that inform successful oral and written communication. Students will research and evaluate the ethical arguments supporting the viewpoints in a major ethical issue, ultimately creating arguments of their own to support an ethical conviction.

The course will include a major project that requires students to work in teams or groups to use the ethical decision-making framework to explore an ethical issue. Students will also continue to develop their reading skills by analyzing and critiquing arguments regarding ethical issues.

3. Detailed Description of Conduct of Course

Each section of the course will be designed around a theme chosen by the instructor that will guide the choice of readings, assignment topics, and other classroom activities. Course themes are selected to promote ethical inquiry and develop skills in oral communication, written communication, information literacy and technology literacy. A group project is required in order to develop team work skills and assist students with developing the skills needed to attain the competencies listed below. Instructors will choose readings in order to develop the theme of the course and assist students with developing the skills needed to attain the goals and objectives for the course listed below.

4. Goals and Objectives of the Course.

This course combines the goals and objectives of the four Core A areas, which are to be fulfilled by the entire Core A sequence. Learning outcomes for have been constructed according to these goals:

Upon completion of University Core A, Radford University students will have achieved competency in four key concept areas: written communications, oral communication, critical thinking, and information literacy.

Goal 1. *Radford University students will be able to prepare coherent and well-written essays that effectively integrate material from a variety of sources. By the completion of Core 202, Radford University students will be able to:*

- Effectively synthesize and integrate arguments and information.
- Construct a coherent, cohesive essay with a clear sense of purpose.
- Show control over syntax, grammar, punctuation, and spelling to communicate in a style that is clear and appropriate for the purpose and audience of the assignment.

Goal 2: *Radford University students will be able to deliver an effective and organized oral presentation and appropriately communicate in interpersonal and small group settings. By the completion of Core 202, Radford University students will be able to:*

- Use an effective organizational pattern in an oral presentation.
- Use effective delivery techniques and language in an oral presentation.
- Work effectively in a team environment. Respond effectively to conflict

Goal 3: *Radford University students will learn to distinguish knowledge from opinion, challenge ideas, and develop reasonable strategies for belief formation. By the completion of Core 202, Radford University students will be able to:*

- Distinguish knowledge from opinion.
- Effectively construct an argument examining multiple sides of a complex issue.
- Apply appropriate supporting evidence within a well-reasoned argument.

Goal 4: *Radford University students will be able to locate, evaluate, and cite information. By the completion of Core 202, Radford University students will be able to:*

- Appropriately use a documentation style to cite other people's work.
- Utilize basic research techniques to locate information.
- Critically evaluate sources using appropriate criteria.

5. Assessment Measures

Students will produce formal texts, spoken and written, which will be assessed according to the course goals as outlined above. Individual course syllabi will articulate the connections among course assignments, activities, and course goals. For Core A program assessment, individual student competencies will be measured by the instructor using the prescribed assessment tool according to the four course goals. Assessment will be conducted at the end of each semester.

6. Other Course Information

7. Review and Approval

Approved Core Curriculum Advisory Committee,

Approved by Faculty Senate,

Revised CORE Student Assessment Rubric

| | NOT COMPETENT | EMERGING COMPETENCY | COMPETENT | HIGHLY COMPETENT |
|---|--|--|--|---|
| Goal 1: Radford University students will be able to prepare coherent and well-written essays that effectively integrate material from a variety of sources. Radford University students will be able to: | | | | |
| Effectively synthesize and integrate arguments and information. | Fails to integrate quotations and paraphrases from more than one source. | Even though from more than one source, quotations and paraphrases are not integrated effectively. | Displays some minor problems integrating sources' arguments through quotations and paraphrases. | Fluidly integrates sources' arguments through quotations and paraphrases. |
| Construct a coherent, cohesive essay with a clear purpose. | Does not present a clear thesis statement and fails to provide topic sentences and transitions. | Presents a thesis statement, but topic sentences and transitions loosely connect a set of ideas. | Presents a thesis statement with some topic sentences and transitions leading a reader through a set of ideas. | Presents a thesis statement, topic sentences, and transitions that effectively lead a reader through a complex set of ideas. |
| Show control over syntax, grammar, punctuation, and spelling to communicate in a style that is clear and appropriate for the purpose and audience of the assignment. | Language and style choices are inappropriate for audience and purpose. Displays significant problems controlling syntax, grammar, punctuation, and spelling. | Language and style occasionally demonstrate a lack of awareness of audience and purpose. Displays several instances of inappropriate syntax, grammar, punctuation, and spelling. | Language and style demonstrate awareness of audience and purpose, with minor errors of syntax, grammar, punctuation, and spelling. | Language and style demonstrate awareness of audience and purpose. Displays control over syntax, grammar, punctuation, and spelling. |
| Goal 2: Radford University students will be able to deliver an effective and organized oral presentation and appropriately communicate in interpersonal and small group settings. Radford University students will be able to: | | | | |
| Use an effective organizational pattern in an oral presentation. | Speech has no clearly stated key ideas and does not follow a logical order. | Speech uses too many or too few key ideas that are not integrated or would have been more effective presented in a different order. | Speech features a manageable number of key ideas arranged in a mostly logical order. | Speech features a manageable number of key ideas arranged in a logical and creative order. |

| | | | | |
|--|---|---|---|---|
| Use effective delivery techniques and language in an oral presentation. | Speaker uses distracting language, ineffective nonverbal communication, and presentational aids that distract from the message. | Speaker uses language, nonverbal communication, and presentational aids that do not support the message | Speaker uses language, nonverbal communication, and presentational aids that supports the message | Speaker uses imaginative language, effective nonverbal communication, and presentational aids that enhances and supports the message. |
| Work effectively in a team environment. | Student was consistently absent from group meetings and/or responded to conflict in ways that worsened the conflict. | Student attended group meetings and avoided conflict. | Student participated in group meetings in ways that fostered productivity by team members and responded to conflict in constructive ways. | Student led and/or participated in group meetings in ways that fostered productivity and focused the team on productive rather than destructive forms of conflict resolution. |

Goal 3: Radford University students will learn to distinguish knowledge from opinion, challenge ideas, and develop reasonable strategies for belief formation. Radford University students will be able to:

| | | | | |
|---|---|---|---|--|
| Distinguish knowledge from opinion. | Student does not demonstrate the difference between opinions and knowledge. | Student attempts to demonstrate the difference between opinions from knowledge. | Student often demonstrates the difference between opinions from knowledge. | Student always demonstrates the difference between opinions from knowledge. |
| Effectively construct an argument examining multiple sides of complex issue. | The essay constructs a fallacious argument with only one perspective. | The essay constructs an argument through premises and conclusions that follow logically for the most part, but with occasional fallacies and one perspective. | The essay constructs an argument through premises and conclusions that follow logically, examining multiple perspectives. | The essay constructs a complex argument through premises and conclusions that follow logically, examining many sides of the issue. |
| Apply appropriate supporting evidence within a well-reasoned argument. | The argument is not supported with evidence. | The argument is supported with evidence, some of which is irrelevant or poorly researched. | The argument is supported with relevant, researched evidence. | The argument is effectively supported with relevant, well-researched evidence. |

Goal 4: Radford University students will be able to locate, evaluate, and cite information. Radford University students will be able to:

| | | | | |
|---|--|--|--|---|
| Appropriately use a documentation style to cite other people's work. | Sometimes gives credit to original ideas of others, but has observable difficulties with basic procedures. | Gives credit to the original ideas of others through attribution and citation, but with some errors. | Gives credit to the original ideas of others through proper and accurate attribution and citation. | Always gives credit to the original ideas of others through proper and accurate attribution and citation. |
| Utilize basic research techniques to locate information. | At least one source or a source of questionable appropriateness is included. | At least one source of information that is appropriate for the assignment is used. | Multiple sources of information with inconsistent levels of appropriateness for the assignment are included. | Multiple sources of information that are all appropriate for the assignment are used. |
| Critically evaluate sources using appropriate criteria. | Student cannot accurately evaluate sources following a given set of criteria. | Student can accurately evaluate sources following a given set of criteria. | Students can accurately evaluate sources following criteria developed by the student, with guidance. | Students can accurately evaluate sources using independently developed criteria. |

Core A Curriculum Map--Revised

| | Core 101 | Core 102 | Core 201 | Core 202 |
|---|-------------|-------------|-------------|-------------|
| Goal 1: Radford University students will be able to prepare coherent and well-written essays that effectively integrate material from a variety of sources. Radford University students will be able to: | | | | |
| Effectively synthesize and integrate arguments and information. | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> | <u>R, A</u> |
| Construct a coherent, cohesive essay with a clear sense of purpose. | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> | <u>R, A</u> |
| Show control over syntax, grammar, punctuation, and spelling to communicate in a style that is clear and appropriate for the purpose and audience of the assignment. | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> | <u>R, A</u> |
| Goal 2: Radford University students will be able to deliver an effective and organized oral presentation and appropriately communicate in interpersonal and small group settings. Radford University students will be able to: | | | | |
| Use an effective organizational pattern in an oral presentation. | | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> |
| Use effective delivery techniques and language in an oral presentation. | | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> |
| Work effectively in a team environment. | | | | <u>I, A</u> |
| Goal 3: Radford University students will learn to distinguish knowledge from opinion, challenge ideas, and develop reasonable strategies for belief formation. Radford University students will be able to: | | | | |
| Distinguish knowledge from opinion. | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> | <u>R, A</u> |
| Effectively construct an argument examining multiple sides of a complex issue. | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> | <u>R, A</u> |
| Apply appropriate supporting evidence within a well-reasoned argument. | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> | <u>R, A</u> |
| Goal 4: Radford University students will be able to locate, evaluate, and cite information. Radford University students will be able to: | | | | |
| Appropriately use a documentation style to cite other people's work. | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> | <u>R, A</u> |
| Utilize basic research techniques to locate information. | | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> |
| Critically evaluate sources using appropriate criteria. | | <u>I, A</u> | <u>R, A</u> | <u>R, A</u> |

RADFORD UNIVERSITY INTELLECTUAL PROPERTY

POLICIES AND PROCEDURES ON INTELLECTUAL PROPERTY TRANSFER

I. PHILOSOPHY

Radford University (hereafter also referred to as “the University”) encourages participation by faculty, staff and students in scholarly research and creative activities that create knowledge, support and enhance teaching, and is consistent with its public service mission to contribute to the economic development of Virginia. While research conducted by the University is aimed first at creation, discovery and dissemination of knowledge, rather than profit from commercial application, the University recognizes that public benefit may result from commercial applications of technology developed with University resources. The University seeks through adoption of these policies and procedures to balance the interests of the public, the University and respective inventor(s), author(s), or artist(s) in intellectual property arising from research and creative activities conducted by employees and students.

II. DEFINITIONS Copyright

“Copyright” is the exclusive right to make copies, license, and otherwise exploit a literary, musical, or artistic work, whether printed, audio, video, etc. Such rights in a work created on or after January 1, 1978, generally endure for a term consisting of the life of the author and 70 years after the author’s death.

Directed Works

“Directed works” include works that are specifically funded by, or created at the direction of, or created pursuant to contract with, the University (including, but not limited to, works for hire by faculty or other employees).

Traditional Works or Non-Directed Works

A “traditional work or non-directed work” is a pedagogical, scholarly, literary, or aesthetic (artistic) work originated by a faculty, student, or other employee resulting from non-directed effort. Such works may include textbooks, manuscripts, scholarly works, fixed lecture notes, distance learning materials not falling into one of the other categories of this policy, works of art or design, musical scores, poems, films, videos,

audio recordings, or other works of the kind that have historically been deemed in academic communities to be the property of their creator.

Patent

A “patent” is the exclusive right granted by a government to an inventor to manufacture, use, or sell an invention for a certain number of years. To be patentable, the invention or discovery must have utility, novelty, and be non-obvious. The U.S. Patent & Trademark Office has determined that software which meets certain technical and legal criteria may be patentable. In the event that software originally disclosed as a Copyrightable Work is subsequently determined to be patentable subject matter, and RU choose to seek patent protection for the software, such software shall be managed under this policy as patentable Intellectual Property.

Sponsored or Externally Contracted Works

A “sponsored or externally contracted work” is any type of copyrighted work developed with funds supplied under a contract, grant, or other arrangement between the University and third parties, including sponsored research agreements.

Work Made for Hire

A “work made for hire” is—

1. A work prepared by an employee within the scope of his or her employment; or
2. A work specially ordered or commissioned for use as a contribution to a collective work, as a part of a motion picture or other audiovisual work, as a translation, as a supplementary work, as a compilation, as an instructional text, as a test, as answer material for a test, or as an atlas, if the parties expressly agree in a written instrument signed by them that work shall be considered a work made for hire.

See 17 U.S.C. § 101 (definition of “work made for hire”)

III. OBJECTIVES

Consistent with policies adopted by the Board of Visitors of Radford University, these policies and procedures are intended to:

1. Provide appropriate incentive for creative intellectual effort by faculty, staff, students, and others associated with the constituent institutions of the University;
2. Establish principles for determining the interests of the constituent institutions, inventors, and sponsors in regard to inventions and/or discoveries;

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C. Enable the constituent institutions to develop procedures by which the significance of inventions and/or discoveries may be determined and brought to the point of commercial utilization;

4. Provide the means for placing in the public realm the results of research, while safeguarding the interests of the University, inventor, and sponsor; and
5. Recognize the right of the inventor to financial benefits from the invention or discovery.

IV. APPLICABILITY

1. **This statement of policy and procedures applies to all persons employed by the University, to all students and to any other person or entity using facilities, staff or funds subject to control or supervision by the University. This document, as amended from time to time, shall be deemed to constitute part of the conditions of employment of every employee, including student employees, and of the conditions of admission, enrollment and attendance by every student of the University. Unless otherwise excepted by the provisions hereof, this policy shall apply to intellectual property of all types (including any invention, discovery, trade secret, technology, scientific or technological development, computer software, conception, design, creation or other form of expression of an idea) regardless of whether such property is subject to protection under patent, trademark, or copyright laws, or other constitutional, statutory or common law.**
2. **If somebody falls under multiple categories (e.g. is simultaneously a student and a University employee), the Intellectual Property Committee will determine if the creation of the works in question fall under one category, for purposes of this document, in accordance with state and federal law. If they fall under several categories, the University may choose which category to use when applying policies in this document.**
3. **The provisions of this document shall be interpreted and applied in conformity with policies adopted by the Board of Visitors of Radford University, including, but not limited to, federal and state laws and regulations.**

V. PATENTS

A. University Interests in Inventions

1. University employees: As provided by Radford University Policies, to which these policies and procedures are expressly subject, the University has an ownership interest in all inventions of University employees (other than "Inventions made on Own Time") that are conceived or first actually reduced to practice as a part of or as a result of University research or other activities involving the use of University facilities, staff, or funds administered by the University.

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2. Students: The University shall not claim ownership interest in inventions of students, unless the University has made a substantial direct investment (an expenditure of at least \$10,000) in a student's invention. General support for students in terms of library facilities, lab equipment and supplies for lab classes, information technology that supports teaching and learning, and office space shall not be included in assessing substantial investment.
3. Inventions made on own time: Faculty, staff, and students whose inventions are made on their own time and without University facilities, staff, or other resources and which inventions are, therefore, their exclusive property as specified by RU Policies, may avail themselves of the opportunity to submit the invention to the University for possible patenting and/or commercial

exploitation and management under terms to be agreed between the inventor and the University.

4. Other agreements: The University also may have an interest in inventions under the terms of contracts, grants, or other agreements.

B. Procedures for Review of Invention Disclosures

1. A University Committee on Intellectual Property shall be established consisting of five Teaching and Research and one Administrative and Professional faculty members and an administrator. The five Teaching and Research faculty members shall be appointed by the Faculty Senate, the Administrative and Professional faculty member shall be appointed by the AP Faculty Senate, and the administrator shall be appointed by the Vice President for Finance and Administration.
2. Employees and others who are subject to these policies and procedures by virtue of their employment or use of University services or facilities, either alone or in association with others, shall immediately disclose to the Provost, or such officer's designee, any invention or discovery (including those made under cooperative arrangements); provide complete information thereon; and cooperate with University in protecting potential patent and know-how rights in accordance with RU Policies and these policies and procedures.
3. The Provost or that officer's designee will promptly acknowledge receipt of completed disclosure forms and will distribute such forms to the Committee for consideration at its next meeting.
4. The Committee will review each written disclosure promptly. The inventor or that person's representative shall be allowed to examine all written materials submitted to the Committee in connection with the disclosure and to make a written and, where practicable, oral presentation to the Committee. The Committee will make recommendations to the Provost or that officer's designee on the proper disposition of the invention to secure the interests of the

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University, the inventor, the sponsor, if any, and the public. Its recommendation may include, but is not limited to, one or a combination of the following:

1. To submit the disclosure for review by a patent or invention management firm;
 2. To make inquiries of potential licenses that may have an interest in the invention, including the financing of a patent application, where applicable;
 3. To study the practicality of applying for a patent with University resources (an option with limited application because of financial constraints);
 4. In proper cases, to release the University's rights to the inventor in accordance with RU policies, subject to an agreement to protect the interests of the University, the sponsor, if any, and the public, including an obligation to pay to the University a percentage of any royalties or other income generated through assignment, licensure or other commercial exploitation of the invention; or
 5. With concurrence of the inventor(s), to dedicate the University's interest in the invention to the public.
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5. Within ninety (90) days of the next regularly scheduled meeting of the Committee following the Provost's receipt of the disclosure (or such other time as may be agreed upon by the inventor(s) and the Provost or that officer's designee), the inventor will be notified in writing of the decision

by the Provost, or such officer's designee, on (1) whether the University plans to file a patent application, (2) whether the University will accept assignment of the invention for patenting, licensing and/or commercial handling as applicable, and/or (3) the equities involved, including financial participation.

If the University chooses neither to file a patent application nor otherwise make an invention available commercially, nor to dedicate to the public an invention in which it asserts its rights, the invention will be released in writing to the inventor, subject to the terms of an applicable sponsored research contract, if any. If no patent application is filed within 8 months following the decision of the Intellectual Property Committee, all patent rights revert to the inventor. If, after the University has filed a patent application, it decides to abandon the application, the inventor will be promptly notified in writing, and the University's rights in the invention will be released by written agreement to the inventor, subject to the terms of an applicable sponsored research contract, if any.

6. In those cases in which the University has obtained a patent without obligation to sponsors, if the University has made no arrangement (*e.g.*, a license agreement, search for prospective licensees or other commercially reasonable

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effort) for commercial development of the invention within one year from the date of the issuance of the patent and each year thereafter, the inventor(s) may request in writing a release of the University's patent rights. The Provost or such officer's designee will promptly either grant the request or advise the inventor(s) of the University's plans for the development of the invention after consultation with the Committee.

C. Publication and Public Use

1. The University strongly encourages scholarly publication of the results of faculty and student research. Though RU Policies do not limit the right to publish, except for short periods of time necessary to protect patent rights, publication or public use of an invention constitutes a statutory bar to the granting of a United States patent for the invention unless a patent application is filed within one year of the date of such publication or public use. Publication or public use also can be an immediate bar to patentability in certain foreign countries.
2. In order to preserve rights in unpatented inventions in which the University retains an interest, it shall be the duty of the inventor, or of the inventor's supervisor if the inventor is not available to make such report, to report forthwith to the Provost or that officer's designee any publication, submission of manuscript for publication, sale, public use, or plans for sale or public use, of an invention if a disclosure has previously been filed. The inventor shall promptly notify the Provost or that officer's designee of the acceptance for publication of any manuscript describing the invention or of any sale or public use made or planned by the inventor. An invention may not be disclosed before the filing of a patent or provisional patent application in the United States Patent and Trademark Office to any person who is not employed by the University or working in cooperation with the University upon that invention, unless the disclosure is made subject to a written Confidential Disclosure and Limited Use Agreement signed by the Provost or that officer's designee and all signatories necessary to bind the other party or parties to the agreement.

D. Ownership

Ownership of inventions and discoveries shall be determined in accordance with

RU Policies.

E. Sponsored Research

1. In cooperative undertakings sponsored by, or involving, third parties, provisions for the control of patents normally should be consistent with the general policy stated above. However, it is recognized that in some cases the interests of other entities (federal or state agencies, corporations, etc.) will justify modifications of the general policy. In those cases, the provisions with respect to patents shall appear in the applicable memorandum of understanding or agreement for the review and approval of the Provost. It is

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intended and provided that disclosed inventions will be identified and managed in accordance with patent policy and procedures.

2. Nothing in this policy shall be interpreted as precluding the acceptance of a contract, grant, or agreement which provides for ownership of inventions and patent rights by the cooperating agency or organization; provided, however, due regard shall be given to the interests of the general public and inventors in such instances.

F. Income from Patents

1. The University shall share technology transfer revenue that it receives from patents or inventions with the inventors. Specific provisions of grants or contracts may govern rights and revenue distribution regarding inventions made in connection with sponsored research; consequently, revenues that University receives from such inventions may be exclusive of payments of royalty shares to sponsors or contractors. Moreover, the University may contract with outside persons or organizations for the obtaining, managing and defending of patents. Any expenses incurred for the services of such persons or organizations, as well as any and all incremental expenses incurred by the University in obtaining and maintaining patents and/or in marketing, licensing, and defending patents or licensable inventions, shall be deducted before the University distributes revenues, subject to the provisions of paragraph 2 below.
2. The revenues that the University receives from a patent or invention (net of expenses described in paragraph 1 above) shall be distributed at least annually as follows:

Inventor 50% University (AA) 50%

Applicable laws, regulations, or provision of grants or contracts may, however, require that a lesser share be paid to the inventor. In the case of co-inventors, each percentage share described in this paragraph as due a sole inventor shall be subdivided equally among the co-inventors unless all the co-inventors provide the University a written instrument signed by each of them allocating ownership among them other than in equal shares. In no event shall the share payable to the inventor or inventors in the aggregate by the University be less than 15% of the gross royalties received by the University.

3. To the extent practicable and consistent with State and University budget policies, amounts allocated to the University pursuant to the chart in paragraph 2 will be dedicated to support University research and commercialization activities, including research in the inventor's department or unit, if approved by the Provost or that officer's designee.
4. In the event that a person contributes an invention to the University, a written agreement accepting such contribution shall be executed by the President or

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that officer's designee, subject to approval and acceptance of Radford University Foundation of Board of Directors. In the event that a person otherwise assigns an invention to the University for value, the terms of the agreement shall include a statement governing the division of income between the University and the assignor and a statement making these policies and procedures applicable to any development or refinement of the invention.

VI. COPYRIGHT

A. Ownership

Copyright is the ownership and control of the intellectual property in original works of authorship. Copyright ownership and the rights thereof are defined by federal law; however, RU Policies effectively grant ownership to certain copyrightable works to individual authors even though federal law would vest ownership in the University. Those determinations have been made by category of copyrightable work and category of author

B. Traditional Works or Non-Directed Works

Traditional faculty authored works: Faculty members retain full ownership of traditional work or non-directed works (see Definitions) they produce as part of their traditional obligation to publish such works and the university's tradition of upholding academic freedom.

There are three exceptions:

1. 1) When work is created as part of a specific assigned duty outside of the scope of ordinary teaching and research obligations under a specific work for hire rationale (for example, in helping to prepare a departmental or university report), the copyright belongs to the university;
2. 2) The university and the author may share copyright when the university has made a substantial direct investment in a faculty authored work (an expenditure of at least \$10,000 or 25% of a faculty member's salary, whichever is greater). General support for faculty in terms of library facilities, lab equipment and supplies, information technology that supports teaching and learning, and office space shall not be included in assessing substantial investment. Terms for sharing of copyright shall be developed through the university's Intellectual Property Committee.
3. 3) Distance Learning Materials - Distance learning materials and courseware created by faculty without the substantial use of university resources, or not as part of a directed work as listed above in B (1), shall remain the property of the faculty member. If the development of distance learning materials or courseware has required substantial use of university resources, or as part of a directed work, the university will own the copyright, but the faculty member and the

university will both retain a non-exclusive license to use these materials in educational settings, even if the faculty member leaves the university. Should

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there be any commercial potential for the materials or courseware developed with substantial use of university resources, the faculty member and the university shall share in any revenues per the royalty distribution matrix described in this policy.

Students: Students retain full ownership of traditional work or non-directed works (see Definitions) they produce as part of their studies unless there is a prior contractual agreement. When significant use by students of university facilities, personnel, or other resources is contemplated, the university may require, as a condition this use of facilities, that ownership of the student-developed invention or creation be reserved to the university, in whole or in part. In such cases, a written understanding regarding ownership and use of student creations or inventions should be signed by the student and the University prior to such significant use by the student of university facilities, personnel, or other resources.

Other Employees: Works or patents developed by employees who are not students or faculty shall be considered under the traditional work-for-hire employment rationale.

4. **Work Made for Hire**

Ownership: The University retains copyright of work made for hire, unless it is a

Traditional or non-Directed Work as provided herein.

5. **Income from Copyright**

1. **Works not Owned by Radford University**

Authors and creators of original works in which the University claims no interest may exercise exclusive rights protected by copyright law, register the copyright and receive any revenues which may result therefrom.

2. **Works in Which Radford University Has an Ownership or Income Interest**

1. Income received by the University through the sale, licensing, leasing or other use of copyrightable material in which the University has an ownership interest will normally be shared with the author. Authorship for this purpose shall be determined by the Provost or such officer's designee. Compensation and division of royalties, if any, will be the same as that provided for patent income under these policies and procedures unless other terms are negotiated by written agreement prior to commencement of work on the project.
2. In the event that an author contributes a copyrighted work to the University, a written agreement accepting such contribution shall be executed by the President or that officer's designee, subject to approval and acceptance of The Radford University Foundation Board of

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Directors. In the event that a person otherwise assigns a copyrighted work to the University for value, the terms of agreement shall include a statement governing the division of royalties or other income between the University and the assignor.

6. Revision of Materials

Materials owned by the University under the terms of this policy shall not be altered or revised without providing the author a reasonable opportunity to assume the responsibility for the revision. If the author declines the opportunity to revise such material, the assignment of responsibility for the revision will be made by the Provost or such officer's designee in consultation with the appropriate department or office.

7. Withdrawal of Materials

Materials owned by the University under the terms of this policy shall be withdrawn from use when the University deems such use to be obsolete or inappropriate; provided, however, such withdrawal or other discontinuance would not violate terms of any licensing or other agreement relating to the materials.

8. Notice of Copyright

All material owned by the University under the terms of this policy shall be protected by notice of copyright in the name of the University. The proper form of such notice is as follows:

© 20- -, Radford University. All rights reserved.

The date should be the year in which the work was completed or in which it was published, whichever is earlier. The name of the University must be spelled out in its entirety. The word "Copyright" may be substituted for the copyright symbol shown above.

VII. TRADEMARKS, SERVICE MARKS AND TRADE NAMES

1. Trademarks and service marks may be any work, name, symbol, or device, or any combination thereof, adopted and used by the University in the sale or advertising of goods or services to identify and distinguish such goods and services from those sold by others.
2. Trade names include any names used to identify Radford University and its services.
3. The President or such officer's designee shall be responsible for protection and licensure of trademarks, service marks, and trade names used by or related to Radford University.

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D. No licenses shall be granted to commercial entities for use of trademarks or service marks in connection with commercial services or stationery, alcoholic beverages, inherently dangerous products, products of obscene or disparaging characteristics, health related products, products classified as staple foods, meats, and natural agricultural products, and any other uses which in the opinion of the President or such officer's designee, would degrade the reputation or goodwill of the University.

VIII. TRADE SECRETS

Trade secrets may be comprised, generally, of any formula, pattern, device or compilation of information which gives one an opportunity to obtain an advantage over competitors who do not know or use it in commercial applications. To the extent permitted by Radford University Policies, trade secrets in which Radford University maintains an interest shall be protected in accordance with the terms of sponsored research agreements or, if none exist, by any lawful means available to the University as determined by the President or such officer's designee.

IX. DISCLOSURE OF INTELLECTUAL PROPERTY AND RELATED RECORDS

- 1. All Individuals who are subject to these policies and procedures have a duty to disclose promptly, in writing, and prior to any disclosure either to the public or for commercial purposes, any intellectual property created or discovered by such individual. Disclosure shall be made to the Provost or such officer's designee.**
- 2. The President or that officer's designee may adopt policies and determine procedures in addition to, but consistent with, those set forth in RU Policies and in this document for appropriate institutional review of such disclosures. The duty to disclose arises as soon as the individual has reason to believe, on the basis of that person's own knowledge or upon information supplied by others, that the intellectual property may be protectable under patent, trademark, or copyright law, or other applicable law. Certainty about the protections to be afforded such intellectual property is not required before a disclosure should be made.**
- 3. All individuals who disclose intellectual property pursuant to these policies and procedures or RU Policies have a duty to deliver to the Provost or such officer's designee all research data or other records and materials related to the intellectual property upon request of the Provost or such officer's designee. As used herein, the term "research data or other records and materials related to the intellectual property" includes, but is not limited to, any recorded information, regardless of the form or media on which it may be recorded, writings, films, sound recordings, pictorial reproductions, drawings, designs, or other graphic representations, procedure manuals, forms, diagrams, work flow charts, any tangible product (e.g., equipment, furniture, sculpture or a model thereof) and its description, data files, data processing or computer programs (software), statistical records, laboratory notebooks or worksheets, field notes, edited and categorized observations, interpretations, analyses, derived reagents and vectors, tables, charts and other records, cells and cell lines, cell products, organisms, tissues, animals, synthetic compounds, samples, and any other information**

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or materials that may aid in evaluation, use or commercialization of, or otherwise related in any way to, such intellectual property.

X. CONFLICTS OF INTEREST

- 1. Ownership of any equity interest in a business entity that has an agreement with the University relating to research, development, licensing, or exploitation of intellectual property created or discovered by a student or employee shall be disclosed to the Provost or such officer's designee. The Provost shall take any necessary steps to avoid**

injury to the University as a result of potential conflicts of interest arising out of such equity ownership.

- 2. No employee or student may serve as a director, officer, or employee of, or consultant to, a business entity that has an agreement with the University relating to research, development, licensing, or exploitation of intellectual property in which the University has an ownership interest except upon request of, or prior approval by, the President or such officer's designee. Authorization to serve as a director, officer, or employee of, or consultant to, such a business entity may be subject to one or more conditions established to avoid injury to the University as a result of potential conflicts of interest.**
- 3. The University may accept equity interests as partial or total compensation for rights conveyed in agreements with business entities relating to intellectual property owned by the University. The University may negotiate, but shall not be obligated to negotiate, an equity interest on behalf of any employee or student as a part of an agreement between the University and a business entity relating to intellectual property created, discovered, or developed by the employee or student and owned by the University.**
- 4. In addition to compliance with the University's other policies governing conflicts of interest and external professional activities, a person subject to these policies and procedures must consult with appropriate University administrators about any proposed consulting agreement with a third party when such consulting agreement contains provisions on patent rights, trade secrets, or the like. Such an agreement may not be entered by an employee or other person subject to these policies and procedures unless (1) it conforms to RU Policies and these policies and procedures or (2) the University waives its rights in any intellectual property arising from activities to be conducted in performance of the agreement.**

XI. DISPOSITION OF UNIVERSITY INCOME

- 1. In the disposition of any net income accruing to the University from patents or trade secrets, preferential consideration shall be given to the promotion of research in accordance with RU Policies.**
- 2. In the disposition of any net income accruing to the University from licensure or assignment of copyright, preferential consideration shall be given to promotion of creative activities.**

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C. In the disposition of any net income accruing to the University from licensure of trademarks or service marks incorporating the name of the University, images of campus structures or the University mascot, preferential consideration shall be given to creation or enhancement of scholarships for athletics programs; provided, however, any trademark or service mark created to market or otherwise identify products related to inventions or discoveries arising from research or other academic activities shall be held and used strictly for academic purposes.

XII. ADMINISTRATION OF INTELLECTUAL PROPERTY

- 1. Unless otherwise expressly provided herein, the President or that officer's designee shall have general authority and responsibility for administration of the policies and procedures set forth in this document. Duties encompassed by this responsibility shall include filing appropriate**

registration forms and supporting documents with the Copyright Office, Library of Congress, or the Patent and Trademark Office, negotiating and drafting licenses and other royalty agreements, drafting necessary agreements for specially commissioned works, determining the applicability of this policy and appropriate law to intellectual property, and adoption of policies and procedures consistent with the provisions of this document and RU Policies, necessary for determination of ownership or protection of the University's interests in intellectual property. All referrals to the President or Provost, or such officer's designee, under these policies and procedures, shall follow established procedures and administrative channels of communication.

2. Agreements which grant a third party the right to make, use, or sell a patented invention, invention know-how, or trade secret that has been disclosed and assigned to, or is otherwise owned by, the University, or which grant a third party the right to reproduce, sell or use a copyrighted work, trademark, service mark, or trade name in which the University owns an interest, shall require written approval by the President or that officer's designee.
3. Individuals subject to these policies and procedures may not: (a) sign agreements with third parties which may abrogate the University's rights and interests, nor (b) without prior written authorization, use the name of the University or any of its units in connection with any intellectual property in which the University has an interest.
4. As a condition of their respective employment or enrollment and attendance, employees and students shall execute any and all declarations, assignments of all rights in any intellectual property and related research data or other records and materials, or other documents deemed necessary by the University to protect its interests in such property. Notwithstanding this or any other provision of these policies and procedures, an individual who delivers and/or assigns intellectual property or other ownership rights in research data or other records and materials related to the intellectual property disclosed hereunder shall be allowed to continue use of such data, records and materials, or reproductions or derivatives thereof, as part of instruction, research, or creative or scholarly activities, conducted by the individual in fulfillment of employment or student academic responsibilities to the extent that such use does not interfere with the University's ownership, use and commercialization of the intellectual property. A

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determination of acceptable use shall be made upon request by the Provost or such officer's designee.

5. The responsibility for protection, commercial marketing and licensure of intellectual property, and for maintenance of appropriate fiscal records, is assigned to the President or such officer's designee. The University recognizes that the evaluation of inventions and discoveries and the administration, development and processing of patents, licensable inventions and other intellectual property involves substantial time and expense and requires talents and experience not ordinarily found in its staff; therefore, in most cases it expects to contract with outsiders for these services. The President or that officer's designee may enter into a contract or contracts with an outside organization covering specific inventions or discoveries believed to be patentable and patents developed therefrom, or covering all such inventions, discoveries, patents or other intellectual property in which the University has an interest.
6. While the University asserts and retains an ownership interest in intellectual property, all expenses of copyright registration, patenting and other forms of protection sought by the

University shall be borne initially by the University and be subject to reimbursement under section V. F, above.

PROHIBITION OF INFRINGEMENT OR UNAUTHORIZED USE OF INTELLECTUAL PROPERTY

Any infringement or unauthorized use of intellectual property by University employees or students is hereby prohibited. Any employee who engages in such conduct is subject to disciplinary sanctions established for misconduct in applicable personnel policies, including, but not limited to, discharge. Any student who engages in such conduct is subject to disciplinary sanctions established for misconduct in the Code of Student Conduct and/or Academic Integrity Code, including, but not limited to, expulsion.

DISPUTE RESOLUTION

In any case in which any creator or inventor of intellectual property disagrees with a decision of the administrator in respect to the ownership of intellectual property in which such persons claim an interest, or in respect to the sharing of royalties or other income accruing to the University through the sale, lease, licensing or other disposition of such property, such persons shall be entitled and obligated to pursue an administrative appeal within the University before pursuing any other legal or equitable remedy. The administrative appeal shall be conducted as follows:

The aggrieved persons shall file with the Provost a written statement of appeal specifically identifying the nature of the dispute and specifically stating the relief requested. This statement must be filed within thirty (30) days after receipt by the aggrieved persons of written notice of the Administrator's decision which is being appealed.

Upon receipt of such a statement of appeal, the Provost shall refer the matter to the University Committee on Intellectual Property, which shall, within thirty (30) days of the filing of the statement of appeal with the Provost, make written findings of fact and

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recommendations regarding resolution of the dispute, unless within such time the Administrator and the aggrieved persons acknowledge in writing that they have resolved their dispute. The committee may require, upon reasonable notice, that the aggrieved parties or the Administrator or both appear before it and provide the committee with additional information relevant to the dispute.

Upon receipt of the written findings and recommendations of the committee, the Provost shall have fifteen (15) days to state his or her decision, in writing, to the aggrieved parties and to the Administrator. He may affirm, modify or reject any determination of the committee.

If the Provost and the Administrator disagree, the matter shall then be referred to the President of the University who shall have fifteen (15) days to state his or her decision, in writing, to the aggrieved parties, the Administrator, and the Provost.

The decision of the President shall be final within the University and no further administrative appeal shall be available to the aggrieved parties or to the Administrator.

Academic Affairs Approval Flowcharts

Academic Affairs approval flowcharts

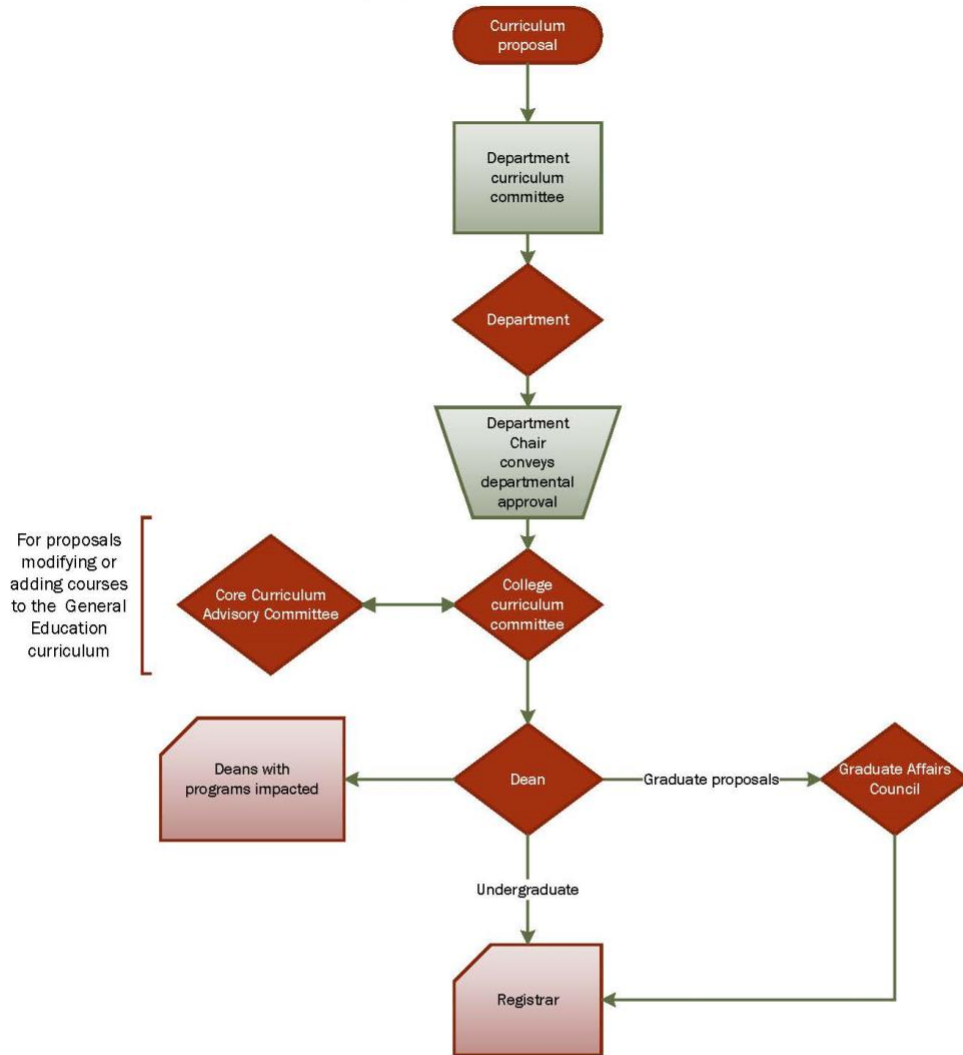
Approval flowcharts for:

- New, modified or discontinued courses
- New, modified or discontinued majors, minors, certificates, concentrations, options, tracks
- Changes requiring external review: new, significantly modified or discontinued programs, certificates
- Changes in academic policies and procedures
- Program proposals from the Academic Program Review Committee
- Changes in the mission, framework, goals or learning outcomes of the General Education program and SCHEV mandated additional learning outcomes
- Academic department: Create, rename, merge, split or realign among colleges
- College: merge, split or realign departments within

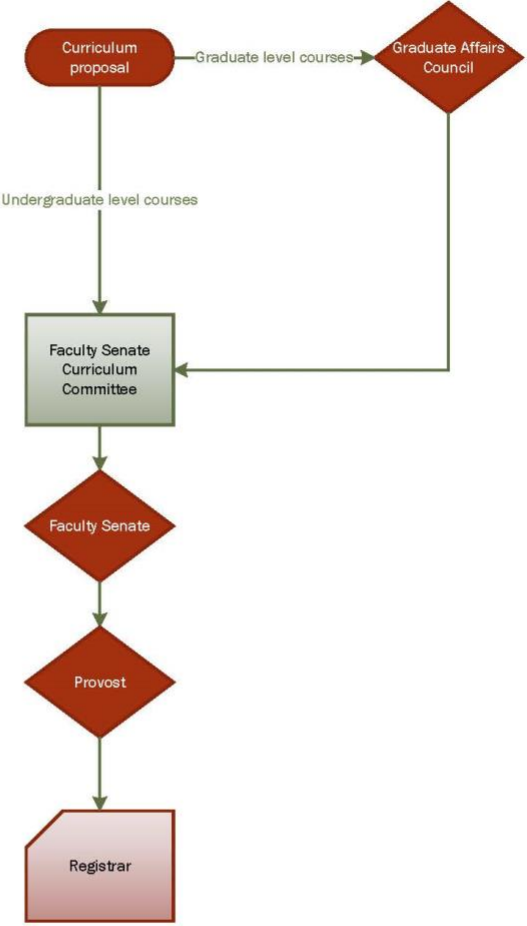
Key for flowchart elements

- Decision making authority 
- Review & recommend 
- Informed 
- Move through 
- Formal action 
- Informal action 

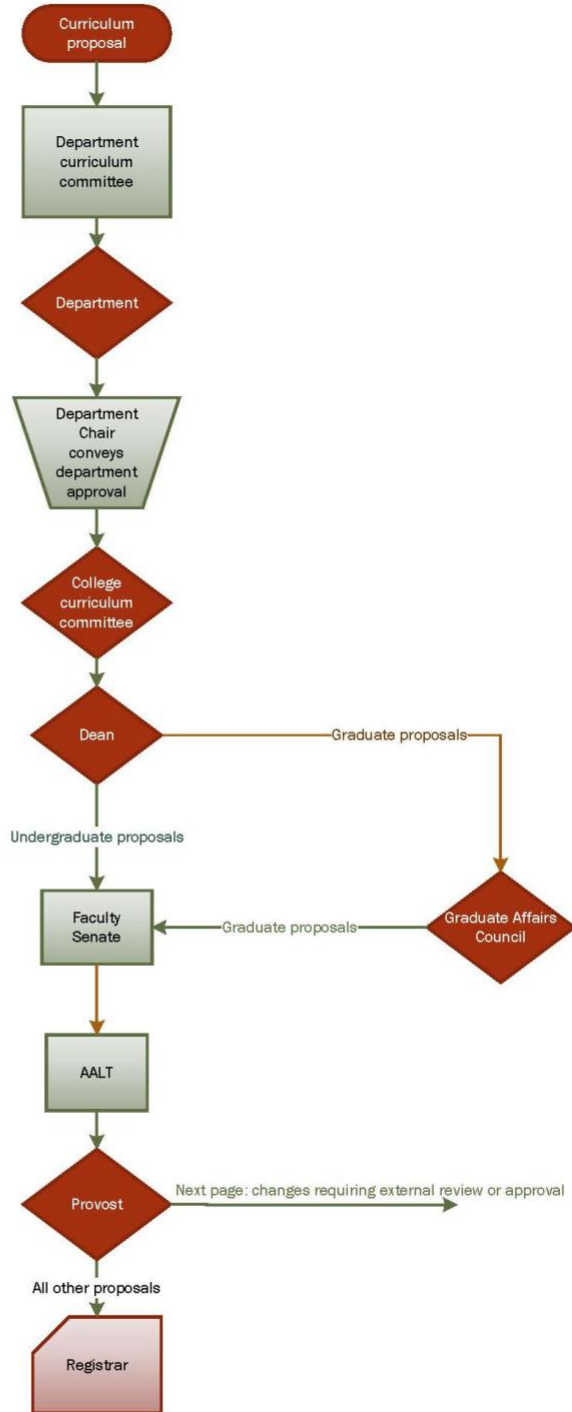
Curriculum Pathway. New, modified, or discontinued courses; changes in program (major, minors and certificates) requirements not submitted to SCHEV



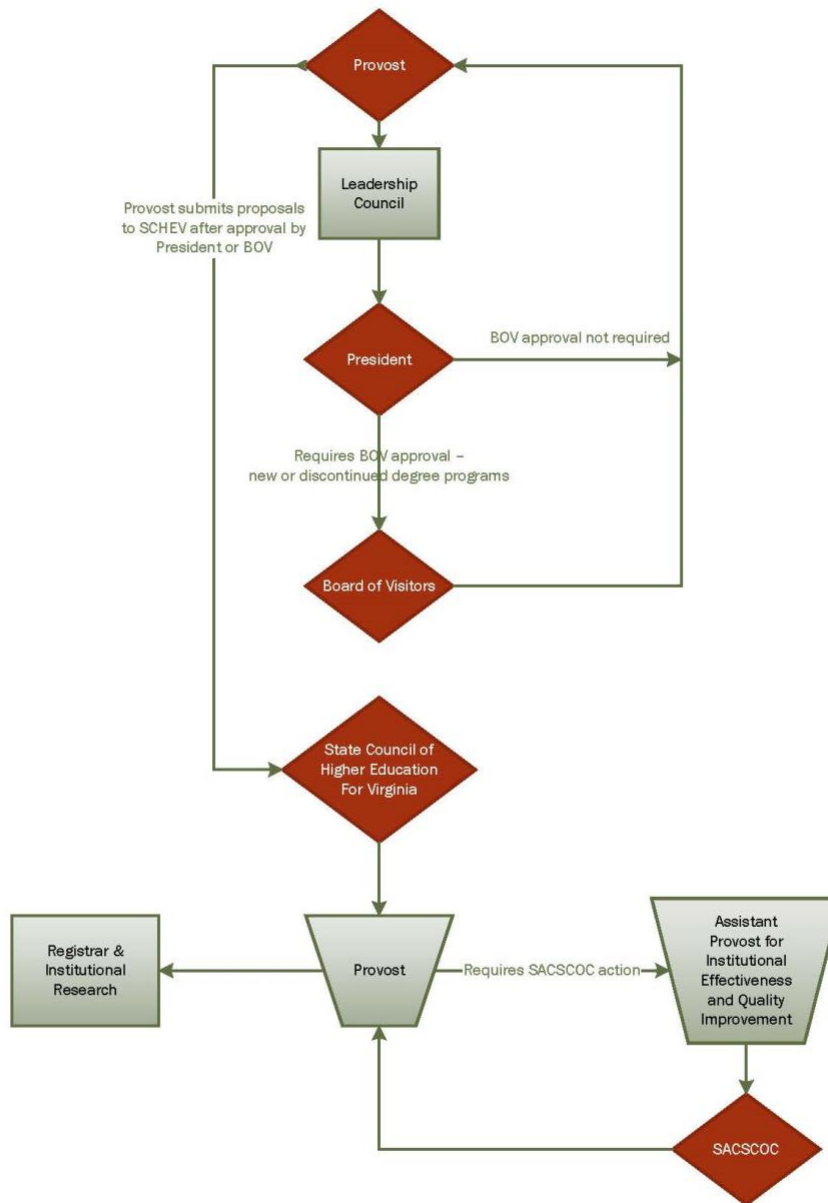
Curriculum Pathway: New, modified, or discontinued courses not in a specific discipline, e.g. UNIV 100 and not CORE



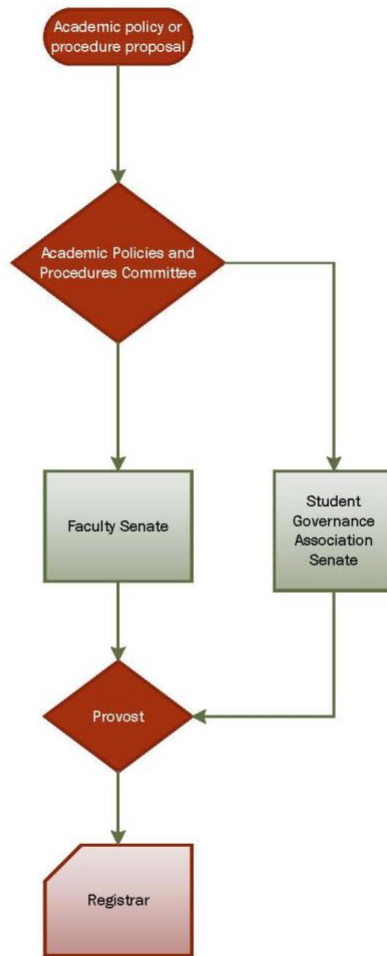
Curriculum Pathway: New or discontinued majors, minors, certificates, concentrations, options; change in program requirements to be submitted to SCHEV



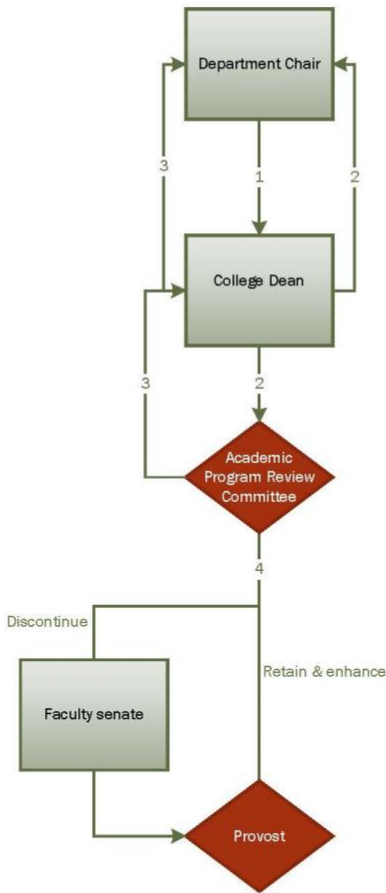
Curriculum pathways: addendum for proposals requiring external review or approval per SCHEV and/or SACSCOC requirements



Academic policies and procedures pathway

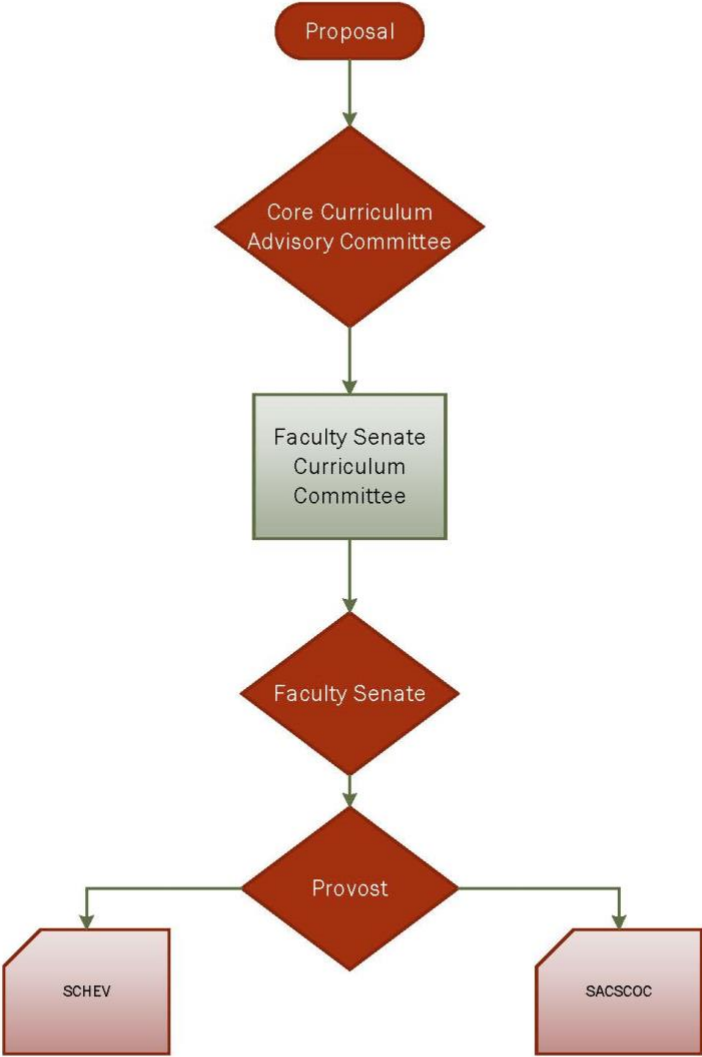


Academic Program Review: For proposals initiated via academic program review

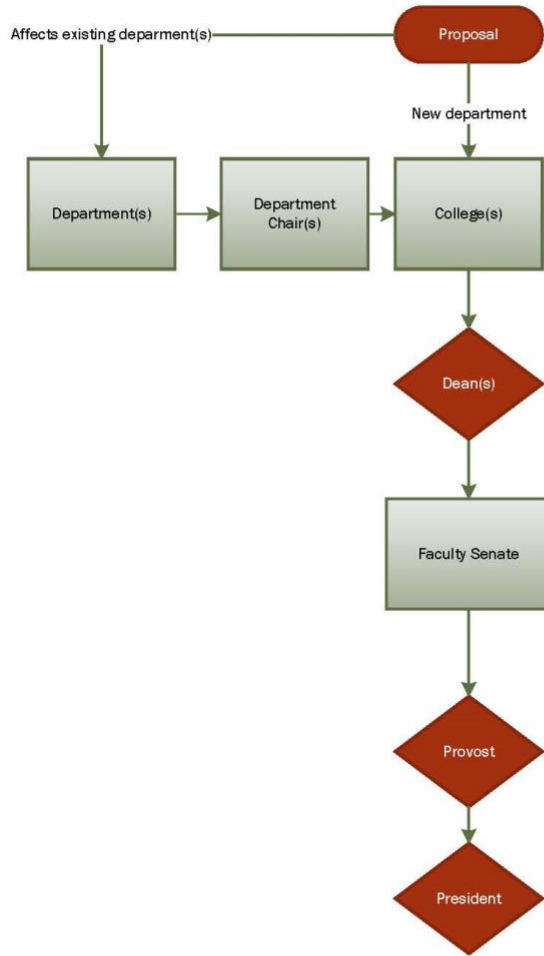


1. Department submit reports to the Dean end of November.
2. Dean reviews reports and submits to APRC start Spring semester, copy to Department.
3. APR committee draft report sent to Department faculty & Chair, and college dean Mar 1.
4. Recommendations to retain/enhance go to Provost, to discontinue to the Faculty Senate for review and comment by Mar 1.
5. Actions by Provost that require BOV/SCHEV/SACSDOC approval or notification follow paths for those proposals.

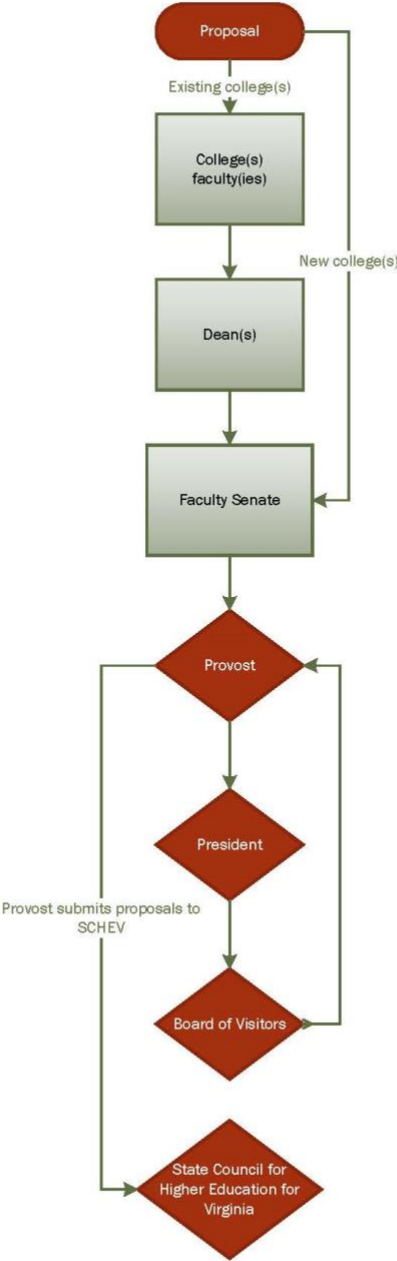
General Education Program: proposals for changes in mission, framework, goals, menu of courses, CORE courses or learning outcomes, including SCHEV mandated additional learning outcomes



Academic department: Create, rename, merge, split, college realignment



Academic college: create, merge, split, college realignment



School of Nursing Undergraduate Healthcare Certificate



Cover Sheet for Proposal to the Undergraduate Curriculum and Catalog Review Committee

Date: 9-20-17

Department: Nursing

Current Course or Program ID:

Proposal Number:

(Assigned by the Registrar)

Contact Person:

Dr. Wendy Downey

Proposal Category: (✓ all that apply). A cover sheet must be submitted for each proposal.

Course Prerequisite Change

Course Credit Hour Change

Course Title Change

New Course

Course Deletion

Course Syllabi Change

Course Number Change

Change to Catalog Description

Program Revision

Minor Change to Course

New Program
(Major, minor, or certificate)

Undergraduate Certificate in Health Sciences

Other Proposal Requirements: (✓ as applies and attach form)

For New Course Proposals, attach the New Course Proposal with appropriate signatures.

Proposal Description with Rationale: (State current status, proposed change, and why the change is desired. Attach additional sheets if necessary).

As a result of collaborative efforts between the School of Nursing, Department of Information Technology, and Carilion Clinic, a Healthcare Certificate has been developed in the School of Nursing that would enable students to meet the growing need for healthcare information management and informatics. The curriculum would be targeted towards students in Information Technology, Business, and related majors.

The Healthcare Certificate consists of 4 courses, for a total of 12 credit hours, with a 4 credit pre-requisite course (BIOL 105) that can be used towards Core Requirements. The track would be housed in the SON for non-nursing students (See attached complete proposal).

Effective Date: Spring 2017

| Signature | Title | Date |
|--|---|-------------|
| | Department Curriculum Committee Chair | |
| | Department Chair | |
| | College Curriculum Committee Chair | |
| | College Dean | |
| If this proposal in any way affects a professional education program, it must be submitted to and approved by the Professional Education Committee and the Faculty Senate: | | |
| | Professional Education Committee Chair | |
| | General Education Curriculum Advisory Committee Chair | |
| | Faculty Senate President | |
| | UG Curriculum & Catalog Review Committee | |
| | Provost and VP for Academic Affairs | |

Radford University School of Nursing

Undergraduate Certificate in Health Sciences

As a result of collaborative efforts between the School of Nursing, Department of Information Technology, and Carilion Clinic, an Undergraduate Certificate in Health Sciences has been developed in Nursing that would enable students to meet the growing need for healthcare information management and informatics. The curriculum would be targeted towards Information Systems students, but could also include students in business, sciences, and other related majors.

The Healthcare Certificate consists of 4-5 courses, with a total of 12-16 credit hours. It is as follows:

BIOL 105 – Biology for Health Sciences (4 credit pre-requisite; three hrs lecture, two hrs laboratory) An introduction to the basic processes of life and science. Emphasis is on scientific investigation and processes common to most organisms including humans.

BIOL 310* – Human Structure and Function I (4 credits; three hrs lecture, two hrs laboratory; pre-req BIOL 105) Anatomy and Physiology for non-nursing, medical, or biology majors to provide basic knowledge of the human body.

BIOL 311* – Human Structure and Function II (4 credits; three hrs lecture, two hrs laboratory; pre-req BIOL 105) Anatomy and Physiology for non-nursing, medical, or biology majors to provide basic knowledge of the human body.

NURS 341 – Medical Terminology for Healthcare Professions (2 credit online; pre-req, BIOL 310 & 311 or BIOL 322) Foundations of medical terminology and the related pathophysiological concepts relative to patient care and communication of data in the healthcare setting.

NURS 452 – Introduction to U.S. Healthcare (2 credit online; pre-req BIOL 105) Students will gain an understanding of concepts in U.S. healthcare, delivery models, legal/regulatory/compliance issues, quality and outcomes measures that are essential in the healthcare industry.

*BIOL 322 (A&P for Pre-Nursing majors) may be substituted for BIOL 310 & 311 if changing field of study

No new resources are needed for this Certificate. NURS 341 Medical Terminology is currently being taught Spring 2018, and NURS 452 will be taught by faculty in Fall 2018 by existing nursing faculty.

Document on Academic Governance

The document on Academic Governance can be [found at this link online.](#)

RARE Course Proposals



105 Heth Hall | PO Box 6904 | Radford, VA 24142 | Telephone: 540-831-5271 | Fax: 540-831-6642

New Course Proposal

New course proposals at the undergraduate level must be approved by the Department Curriculum Committee, Department Chair, College Curriculum Committee, and College Dean before being presented to the Undergraduate Curriculum and Catalog Review Committee. Proposals for new courses intended for inclusion in the Core Curriculum must also be approved by the General Education Curriculum Advisory Committee before being presented to the Undergraduate Curriculum and Catalog Review Committee. Courses recommended by the Undergraduate Curriculum and Catalog Review Committee to the Vice President for Academic Affairs must be approved before they can be scheduled.

I. Catalog Entry

a. Department Prefix (three or four capital letters) RARE

b. Course Number (three numbers) 400

c. Course Title Radford Amazonian Research Expedition Pre-departure Seminar

d. Prerequisites- Instructor Approval

e. Credit Hours 2

f. Brief Description

This course will include readings, discussions, and activities to prepare students for their RARE study abroad experience. Students and faculty will meet to discuss relevant readings on topics of interest for that year's RARE trip(s). Students will also prepare their research methodology and timeline for the project they will be conducting on their RARE trip. Students will also be involved in activities to prepare them for visiting a foreign country and living in the intensive environment found in this study abroad experience.

II. Detailed Description of Course

- a. Content- This course will include readings, discussions and activities designed to prepare the student for their RARE study abroad experience. Topic areas will vary by faculty and student interest, as well as other relevant current events. Students will also prepare their research question or project goal, methodology, and timeline for the project they will be conducting on their RARE study abroad trip. Students will consult with the RARE faculty members leading their trip for assistance in the research process. Students may also work with faculty from their research subject area to aid

in their research process. Final approval of the research subject and course of action will be by the RARE faculty leading the trip. Students will also be involved in activities to prepare them for visiting a foreign country and living in the intensive environment found in this study abroad experience.

b. Detailed Description of Conduct of Course- Course delivery methods may include discussions, activities, short writing assignments and team building exercises.

c. Student Goals and Objectives of the Course- Having successfully completed this course, the student will:

1. Develop a research proposal and methodology to guide research activities in the Amazon.
2. Design data collection protocols and research timeline.
3. Describe and discuss research, cultural, and other issues related to the RARE experience.

d. Assessment Measures- Assessment measures may include writing assignments, presentations of research methodology and timeline, participation in group team building activities and discussions of relevant topics.

e. Other Course Information

III. Background and Justification

a. Need for the Course- this course will serve as the preparation for the RARE trip and will ensure that the students selected to go on the trip are ready for not only the research aspect of the trip but also for other issues that may arise as part of living in a foreign country, and with their fellow classmates, for an extended period of time. This course in combination with RARE 410 may qualify as research or independent study credit for many disciplines.

b. Students for Whom Course is Offered- students accepted into the RARE program

c. Anticipated Enrollment- a maximum of 15 students per RARE trip

d. Frequency of Course Offerings- each spring as needed to support the RARE trip

e. Level and Prerequisites- By permission of instructor

IV. Rationale for Resources Required

a. Faculty Resources- no additional resources

b. Effect on Existing Curricula- this class will be in addition to regular course offerings in the faculty's home department

c. Facilities, Equipment and Supplies- use of existing facilities

d. Library Resources

1. Describe the adequacy of materials available to support this course.
Both print and electronic resources currently available through McConnell Library will be sufficient for this class.

2. List in priority order the additional materials to be purchased.

Attach additional sheets as needed.

Prepared by:

Signature of Faculty Member:

Signature of Librarian assigned
to requesting department:

e. Computer Resources

f. Other Anticipated Resources

* Approval of new courses only. Resources required for new courses must be approved through the college resource allocation process.



105 Heth Hall | PO Box 6904 | Radford, VA 24142 | Telephone: 540-831-5271 | Fax: 540-831-6642

New Course Proposal

New course proposals at the undergraduate level must be approved by the Department Curriculum Committee, Department Chair, College Curriculum Committee, and College Dean before being presented to the Undergraduate Curriculum and Catalog Review Committee. Proposals for new courses intended for inclusion in the Core Curriculum must also be approved by the General Education Curriculum Advisory Committee before being presented to the Undergraduate Curriculum and Catalog Review Committee. Courses recommended by the Undergraduate Curriculum and Catalog Review Committee to the Vice President for Academic Affairs must be approved before they can be scheduled.

I. Catalog Entry

a. Department Prefix (three or four capital letters) RARE

b. Course Number (three numbers) 410

c. Course Title- Radford Amazonian Research Expedition Study Abroad

d. Prerequisites- RARE 400

e. Credit Hours 2

f. Brief Description

This course will entail the RARE study abroad experience. While on their study abroad, the students will be conducting their original research or scholarship as well as aiding the other students and faculty on the RARE trip with their research where appropriate. Students are also expected to engage in discussion with the other students and faculty on the research process and other events that may happen during this study abroad experience.

II. Detailed Description of Course

Content- This course will entail the RARE travel abroad experience. While on their study abroad, the students will be conducting their original research or creative scholarship project. Student research and scholarship can take a variety of forms and be from any discipline within the university. Final approval of the project will be given by the RARE faculty members leading the trip. Students will also aid the other students and faculty on the RARE trip with their projects where appropriate. In addition to conducting their research project, the students are expected to engage in discussion with the other students and faculty on the research process and other events that may happen during this study abroad experience.

b. Detailed Description of Conduct of Course- Course delivery methods may include discussions, research activities, short writing assignments and team building exercises.

c. Student Goals and Objectives of the Course- Having successfully completed this course, the student will:

4. Apply a research or scholarship protocol in a field setting to collect data.
5. Collaborate with other students and faculty to collect data and learn new field techniques.
6. Experience and discuss other cultures and ways of life.

d. Assessment Measures- Assessment measures may include short writing assignments, a presentation of their research to date, participation in group activities and discussions of relevant topics. Additionally, we will administer an external survey to assess student learning gains.

e. Other Course Information

III. Background and Justification

a. Need for the Course- This course will serve as the official credit for the RARE study abroad program. Having one course that everyone takes will allow students from disciplines across the university to take the same course. It will also ensure that faculty from across the campus that lead the RARE trip can serve as the instructor(s) of record for this course. This course in combination with RARE 400 may qualify as research or independent study credit for many disciplines.

b. Students for Whom Course is Offered- students accepted into the summer RARE program

c. Anticipated Enrollment- a maximum of 15 students per summer RARE trip

d. Frequency of Course Offerings- each summer term as needed

e. Level and Prerequisites-

IV. Rationale for Resources Required

a. Faculty Resources- no additional resources

b. Effect on Existing Curricula- this class will be in addition to regular course offerings in the faculty's home department

c. Facilities, Equipment and Supplies- use of existing facilities

d. Library Resources

3. Describe the adequacy of materials available to support this course. Both print and electronic resources currently available through McConnell Library will be sufficient for this class.

4. List in priority order the additional materials to be purchased.

Attach additional sheets as needed.

Prepared by:

Signature of Faculty Member:

Signature of Librarian assigned
to requesting department:

e. Computer Resources

f. Other Anticipated Resources

* Approval of new courses only. Resources required for new courses must be approved through the college resource allocation process.



105 Heth Hall | PO Box 6904 | Radford, VA 24142 | Telephone: 540-831-5271 | Fax: 540-831-6642

New Course Proposal

New course proposals at the undergraduate level must be approved by the Department Curriculum Committee, Department Chair, College Curriculum Committee, and College Dean before being presented to the Undergraduate Curriculum and Catalog Review Committee. Proposals for new courses intended for inclusion in the Core Curriculum must also be approved by the General Education Curriculum Advisory Committee before being presented to the Undergraduate Curriculum and Catalog Review Committee. Courses recommended by the Undergraduate Curriculum and Catalog Review Committee to the Vice President for Academic Affairs must be approved before they can be scheduled.

I. Catalog Entry

a. Department Prefix (three or four capital letters) RARE

b. Course Number (three numbers) 420

c. Course Title- Radford Amazonian Research Expedition Capstone

d. Prerequisites- RARE 410

e. Credit Hours 2

f. Brief Description

This course will be taken in the semester following the student's RARE study abroad trip and will serve as the capstone for their RARE experience. In this course, the student will continue with their data analysis, writing, and presenting of their research to the University community. Students will also help with recruitment of students for the program and other activities to help maintain the RARE program.

II. Detailed Description of Course

Content- This course is the final component of the RARE program. During this course, the student will continue with data analysis from their RARE project(s), writing up the results of their research and make a presentation to the larger university community. The student will also assist in the recruitment efforts for the next RARE trip. Finally, the student will learn more about the research process by assisting the RARE faculty in seeking grants or other activities aimed at continuing the RARE program.

b. Detailed Description of Conduct of Course- Course delivery methods will include a formal presentation to the university community and a paper on their research. It may also include

discussions, grant writing activities, presentations to university classes, and other assignments and activities aimed at continuing the RARE program.

c. Student Goals and Objectives of the Course- Having successfully completed this course, the student will have:

1. Developed a paper discussing their project including appropriate literature, methods, results, and discussion.
2. Presented their experience and defended their research to the university community in a formal presentation.

d. Assessment Measures- Assessment measures may include their research paper and presentation and other class assignments. Additionally, we will administer an external survey to assess student learning gains.

e. Other Course Information

III. Background and Justification

a. Need for the Course- This course will serve as the capstone experience of the RARE program. The students will close the loop on their research and learn more about how research is conducting and perpetuated at an academic institution. It will also serve as a way for faculty to assess some of the learning outcomes of the program. This course may qualify as research or independent study credit for many disciplines.

b. Students for Whom Course is Offered- students who complete the summer RARE program

c. Anticipated Enrollment- a maximum of 30 students

d. Frequency of Course Offerings- each fall term as needed

e. Level and Prerequisites- No prerequisites or class status requirements.

IV. Rationale for Resources Required

a. Faculty Resources- no additional resources

b. Effect on Existing Curricula- this class will be in addition to regular course offerings in the faculty's home department

c. Facilities, Equipment and Supplies- use of existing facilities

d. Library Resources

5. Describe the adequacy of materials available to support this course. Both print and electronic resources currently available through McConnell Library will be sufficient for this class.

6. List in priority order the additional materials to be purchased.

Attach additional sheets as needed.

Prepared by:

Signature of Faculty Member:

Signature of Librarian assigned
to requesting department:

e. Computer Resources

f. Other Anticipated Resources

* Approval of new courses only. Resources required for new courses must be approved through the college resource allocation process.

OURS 200 Proposal



105 Heth Hall | PO Box 6904 | Radford, VA 24142 | Telephone: 540-831-5271 | Fax: 540-831-6642

Cover Sheet for Proposal to the Undergraduate Curriculum and Catalog Review Committee

Date: February 20, 2018

Proposal Number:
(Assigned by the Registrar)

**Department: Office of Undergraduate Research
& Scholarship**
Current Course or Program ID: OURS 200

Contact Person: Joseph Wirgau

Proposal Category: (✓ all that apply). A cover sheet must be submitted for each proposal.

Course Prerequisite Change

Course Credit Hour Change

Course Title Change

New Course

Course Deletion

Change to Official Detailed Course
Description (formerly referred to as
Official Course Syllabus)

Course Number Change

Change to Catalog Description

Program Revision

Minor Change to Course

New Program
(Major, minor, or certificate)

Other Proposal Requirements: (✓ as applies and attach form)

For New Course Proposals, attach the New Course Proposal with appropriate signatures.

Proposal Description with Rationale: (State current status, proposed change, and why the change is desired. Attach additional sheets if necessary).

This course is needed to support the Accelerated Research Opportunities (ARO) learning community. The Living Learning Community does not have required elements for the spring semester and this has limited the effectiveness of the program. This course will allow for the

better mentoring of the ARO students as they begin their URSCA (undergraduate research, scholarship, and creative activities) projects.

Effective Date: Spring 2019

Reason for requesting an alternative effective date: **The proposal is in support of the Accelerated Research Opportunities (ARO) learning community and the next cohort is expected in the Fall 2018 semester.**

| Signature | Title | Date |
|--|--|------|
| | Department Curriculum Committee Chair | |
| | Department Chair | |
| | College Curriculum Committee Chair | |
| | College Dean | |
| If this proposal in any way affects a professional education program, it must be submitted to and approved by the Professional Education Committee and the Faculty Senate: | | |
| | Professional Education Committee Chair | |
| | Core Curriculum Advisory Committee Chair | |
| | Faculty Senate President | |
| | UG Curriculum & Catalog Review Committee | |
| | Provost and VP for Academic Affairs | |

New Course Proposal

New course proposals at the undergraduate level must be approved by the Department Curriculum Committee, Department Chair, College Curriculum Committee, and College Dean before being presented to the Undergraduate Curriculum and Catalog Review Committee. Proposals for new courses intended for inclusion in the Core Curriculum must also be approved by the General Education Curriculum Advisory Committee before being presented to the Undergraduate Curriculum and Catalog Review Committee. Courses recommended by the Undergraduate Curriculum and Catalog Review Committee to the Vice President for Academic Affairs must be approved before they can be scheduled.

I. Catalog Entry

a. Department Prefix (three or four capital letters): **OURS**

b. Course Number (three numbers): **200**

c. Course Title: **ARO Research Experiences**

d. Prerequisites: **OURS 100 or Permission of the Instructor**

e. Credit Hours: **1 hours lecture (1)**

f. Brief Description: **Students will develop and successfully deliver research presentations, discuss their research with each other throughout the semester and publically present their findings at the end of the course.**

II. Detailed Description of Course

a. Content:

This course is designed to provide students with mentoring to communicate their research to both the general public and technical experts. Research is defined broadly using the Council on Undergraduate Research's definition, where research is an inquiry or investigation conducted that makes an original intellectual or creative contribution to the discipline.

Topics that may be used to achieve the purposes of the course include:

1. Communication Skills

- a. how to approach faculty about undergraduate research**
- b. establishing regular contact with a faculty mentor**
- c. oral presentation skills**
- d. poster presentation skills**

2. Campus Resources

- a. library**

| |
|---|
| <ul style="list-style-type: none"> b. OURS funding c. other funding sources <p>3. How to design a research project</p> <ul style="list-style-type: none"> a. the IRB and IACUC process b. how to write an abstract or artist statement c. how to write background and context d. how to explain the significance and impact of a project e. how to write clear, concise, research problems or questions f. what are typical outcomes of a project |
| <p>b. Detailed Description of Conduct of Course: The course will be taught in one 50 minute classroom session a week. The sessions will be interactive and a combination of presentations and discussions as determined by the instructor.</p> |
| <p>c. Student Goals and Objectives of the Course: At the conclusion of the course students will be able to:</p> <ul style="list-style-type: none"> 1. Students will be able to articulate the importance of a research project to the public. 2. Students will be able to formally present their findings. |
| <p>d. Assessment Measures: Students will be evaluated on their oral presentations, attendance, and final formal presentation.</p> |
| <p>e. Other Course Information:</p> |
| <p>III. Background and Justification</p> |
| <p>a. Need for the Course: This course is needed to support the Accelerated Research Opportunities (ARO) learning community. The Living Learning Community does not have required elements for the spring semester and this has limited the effectiveness of the program. This course will allow for the better mentoring of the ARO students as they begin their URSCA (undergraduate research, scholarship, and creative activities) projects.</p> |
| <p>b. Students for Whom Course is Offered: New students to Radford University with self-identified interest in immediately pursuing original research and having strong academic indicators for success.</p> |
| <p>c. Anticipated Enrollment: Maximum and expectation of 24 students.</p> |
| <p>d. Frequency of Course Offerings: One section each Spring.</p> |
| <p>e. Level and Prerequisites: This course is intended for students in their second semester at Radford University.</p> |
| <p>IV. Rationale for Resources Required</p> |
| <p>a. Faculty Resources: No additional faculty resources are needed to offer the course. The Director of the Office of Undergraduate Research & Scholarship will be the faculty of record and part of the administrative reassigned time is in support of this program.</p> |
| <p>b. Effect on Existing Curricula: None anticipated.</p> |

c. Facilities, Equipment and Supplies: **Current facilities, equipment, and supplies are sufficient for this course.**

d. Library Resources

7. Describe the adequacy of materials available to support this course.
Current library resources are sufficient for the proposed course.
8. List in priority order the additional materials to be purchased.
None anticipated.

Attach additional sheets as needed.

Prepared by:

Signature of Faculty Member:

Signature of Librarian assigned
to requesting department:

e. Computer Resources: **No additional computer resources are anticipated.**

f. Other Anticipated Resources: **No additional resources are anticipated.**

* Approval of new courses only. Resources required for new courses must be approved through the college resource allocation process.

Revision of Existing Program

Contrast the current program with the proposed program, including credits required for the degree. Make sure all changes are noted. Attach additional sheets if necessary.

| Existing Program: | Proposed Program: |
|---|--|
| There is no Philosophy and Religious Studies minor in ethics. | A minor in ethics consists of 18 credit hours and is comprised of the following courses: PHIL 112: Ethics and Society (3 cr.) PHRE 202: Current Topics in Ethical Inquiry (3 cr.) PHIL 310: Professional Ethics (3 cr.) PHIL 390: Ethical Theory (3 cr.) PHIL 430: Emerging Trends in Bioethics (3 cr.) PHIL 440: Cultural Perspectives in Bioethics (3 cr.) |

MBA Graduate Certificate in Business Analytics

**COLLEGE OF GRADUATE STUDIES AND RESEARCH
GRADUATE PROGRAM /CERTIFICATE PROPOSAL
PROGRAM/CERTIFICATE COVER SHEET**

| | | | |
|---|---|---|----------|
| <input type="checkbox"/> PROGRAM | MBA 01-18-021218 | | |
| <input checked="" type="checkbox"/> CERTIFICATE | | | |
| NAME OF: Program/Certificate | Graduate Certificate in Business Analytics | | |
| DESCRIPTION | The four-course Graduate Certificate in Business Analytics will provide graduates with the skills, techniques and applications to use data to generate business intelligence for effective organizational decision-making. Students will explore and analyze large amounts of data to develop predictive models, discover meaningful patterns, and generate rules for business decision-making as it is increasingly critical for organizations to understand and leverage the capabilities of business analytics to inform operational activities and identify scientifically strategic directions. We will partner with SAS, the leading provider of Analytics solutions for industry, to add credibility to the certificate program. | | |
| PARTICIPATING DEPARTMENTS | Primary | Economics (ECON), Finance (FINC), Management (MGNT), and Marketing (MKTG) | |
| | Supporting | | |
| # SEMESTER HOURS | 12 – all of the courses that comprise the certificate are existing courses currently listed in the graduate catalog | | |
| LENGTH OF PROGRAM IN YEARS | 2 (this could be shortened with enrollment increases to allow courses to be offered more frequently) | | |
| # WEEKS OF INSTRUCTIONAL TIME | 56 (4 courses x 14 weeks as these will be offered as regular semester courses) | | |
| STRUCTURE | Cohort On-going Entry | | |
| | Begin Term | | End Term |
| LOCATION OF COURSES | Face-to-face at campus locations and online – will use hybrid modality of synchronous delivery combined with asynchronous delivery | | |
| TARGET MARKET | Potential target markets include: (1) MBA students interested in expanding their analytics knowledge or to improve their job prospects, (2) students in other graduate programs seeking to build credentials in business analytics, and (3) non-degree seeking professionals who wish to build credentials in business analytics. | | |

| | |
|---|---|
| NET NUMBER OF NEW RU STUDENTS | While we believe this will expand enrollments in the MBA program as well as attract students interested in building their credentials via a certificate, this is difficult to estimate without knowing how the certificate program will be marketed. |
| OCCUPATIONS FOR WHICH THE PROGRAM PREPARES STUDENTS (SOC CODES) SEE: HTTP://WWW.BLS.GOV/SOC/MAJOR_GROUPS.HTM | The new 2018 site was used for the SOC category codes - https://www.bls.gov/soc/2018/major_groups.htm#11-0000 13-1110 (Management Analysts), 13-1160 (Market Research Analysts and Marketing Specialists), 13-2040 (Credit Analysts), 13-2050 (Financial Analysts and Advisors), 15-2030 (Operations Research Analyst), 19-3010 (Economists) |
| TOTAL ESTIMATED COSTS FOR BOOKS & SUPPLIES | \$1200 |
| ADDITIONAL STUDENT FEES OR EXPENSES BEYOND STANDARD TUITION, FEES, BOOKS, AND SUPPLIES | None |
| CAN 100% OF THE REQUIREMENTS FOR THIS PROGRAM BE COMPLETED VIA DISTANCE LEARNING? | Yes |
| PRIMARY CONTACT PERSON | Dr. Gary Schirr |

| Proposal Routing | |
|-------------------------|---|
| 1. | Departmental Curriculum Committees (following departmental protocol for approval) |
| 2. | College Curriculum Committees (following college protocol for approval) |
| 3. | Professional Education Committee (if it includes a professional education component) |
| 4. | Extended Education (if it contains an extended education component) |
| 5. | Distance Education (if it utilizes distance or other instructional technologies) |
| 6. | Submit this form to the <i>RU Graduate College Academic Course & Program Review Committee (ACPR)</i> , along with the following documentation: <input checked="" type="checkbox"/> Cover Sheet for (ACPR) Committee <input checked="" type="checkbox"/> New Certificate Narrative <input checked="" type="checkbox"/> New Certificate Budget |

Note: Some of the questions are required for Gainful Employment reporting to the U.S. Department of Education.

Attached: New Certificate Narrative
 New Certificate Budget

Approvals:

| | |
|--|-------|
| _____ | _____ |
| Department Chair/ School Director | Date: |
| _____ | _____ |
| College Dean | Date: |
| _____ | _____ |
| Professional Education Committee (if applicable) | Date: |
| _____ | _____ |
| Dean, College of Graduate and Professional Studies | Date: |
| _____ | _____ |
| Provost | Date: |

Graduate Certificate

Name of Certificate: Graduate Certificate in Business Analytics

CIP Code: 52.1301 Management Science

Initiation Date: Fall 2018

Description of Certificate:

The Graduate Certificate in Business Analytics will provide a tangible recognition for the skills, knowledge, and abilities students acquired. It would also provide the MBA with a unique selling proposition. While other Colleges of Business in the Commonwealth offer certificate programs, the Radford University College of Business & Economics would be the first to offer a Graduate Certificate in Business Analytics partnered with SAS, a worldwide leader in data analytics software and the largest independent vendor in the business intelligence market. The joint certificate program with SAS will help to differentiate the Radford University MBA program, provide credential-building for individuals from other disciplines interested in expanding their knowledge of business analytics and provide a strong differentiating marketing message to attract students, alumni and industry professionals.

The Graduate Certificate in Business Analytics Concentration is founded on the belief that business managers do not always have a sense of what analytics can do for them, and data scientists do not always understand enough about a manager's problem to be helpful. The Director of IBM's Global University Programs, Jim Spohrer, has said, *"It's not like we could solve the problem if we had more computer scientists in data analytics. The fact of the matter is we need marketing people who know big data analytics. We need health care people who know big data analytics."*¹ What is needed are individuals with domain knowledge who are also knowledgeable and skilled in analytics; people who have a passion for finding data informed decisions to problems and opportunities facing businesses in a growing interconnect global environment.

In its 2016 Corporate Recruiters Survey, the Graduate Management Admissions Council (GMAC) reported that companies are seeking graduates with strong analytical skills with expertise in using software to include Excel, SAS, SQL, SPSS and Tableau. The survey also reported that "employers are looking for much more than technical skills. Aside from robust analytical and quantitative talents, employers require candidates who can demonstrate interpersonal, communication, and team-building skills

¹ **As Demand for Big Data Analysts Grows, Schools Rush to Graduate Students with Necessary Skills**, The Washington Post, September 15, 2013.

– the common building blocks in the MBA.” As recruiter from a small U.S. based consulting company put it: *We have no interest in individuals who focus solely on data analytics. We want influencers, not statisticians.*² Analytics is a booming business, thanks to the rise in big data, and MBA programs are embracing the trend as it continues to be evident that skills in data analytics opens doors for career opportunities.³

The need for analytics skills was also reinforced by members of the COBE Advisory Council. At a recent meeting of the group, they emphasized the need for employees who not only know how to analyze Big Data, but how to use the findings strategically in creating a competitive advantage for a company. Additionally, there has been a steady growth in analytics jobs over the past five years. The U.S. Bureau of Labor Statistics predicts that there will be a 24 percent increase in demand for professionals with management analysis skills over the next eight years with employers needing 876,000 business analysis related professionals by 2020.⁴ The McKinsey Global Institute predicts there will be a shortage of talent necessary for organizations to take advantage of Big Data⁵. Currently, the United States faces a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions. A recent Computerworld survey reported that 24% of respondents were planning to hire data analytics professionals; yet all those respondents also expected this skill to be the most difficult to find.⁶ The need for talent with analytical skills continues to be strong due to the increased convergence of analytics and business⁷ with worldwide revenues for big data and business analytics estimated to be more than \$203 billion in 2020.⁸

In order to add industry credibility to the proposed certificate program, we will partner with SAS, the leading provider of Analytics solutions. This partnership requires that at least one-half of the courses in the certificate program use SAS software and that students complete a project using real data. The courses proposed for the certificate are already SAS-intensive and use real-world data so these do not pose any limitations to the proposed offering. The partnership with SAS benefits students by providing them with experience with state-of-the-art analytics software. It will also benefit Radford University as SAS will promote the certificate program on the SAS website.

² **To Fill Data Analytics Roles, Employers Seek More than Just Technical Skills from B-Schools**, GMAC, September 15, 2016, accessed at: <http://www.gmac.com/market-intelligence-and-research/research-insights/employment-outlook/to-fill-data-analytics-roles-employers-seek-more-than-just-technical-skills-from-b-school-grads.aspx>.

³ The Top Five MBA Trends for 2016, **MBA Channel**, December 5, 2016, accessed at: <http://www.mba-channel.com/channel/article/the-top-five-mba-trends-for-2016/>.

⁴ U.S. Bureau of Labor Statistics, Employment Projections Program.

⁵ Big Data: The Next Frontier for Innovation, Competition, and Productivity, (May 2011). McKinsey & Company, McKinsey Global Institute.

⁶ **Data. Insights. Action.** PASS Business Analytics Conference Announcement (2015 accessed at: <http://passbaconference.com/2016/Home.aspx>

⁷ Business Analysis Trends for 2016, **Intelligence, Integrity and Innovation**, January 13, 2016, accessed at: <http://blog.iil.com/business-analysis-trends-for-2016/>.

⁸ Double-Digit Forecast Growth for the Worldwide Big Data and Business Analytics Market Through 2020, **IDC**, October 3, 2016, accessed at: <https://www.idc.com/getdoc.jsp?containerId=prUS41826116>.

Career Opportunities

Career opportunities can be found in commerce, government, for-profit and non-for-profit organizations, and the services or manufacturing sectors. Examples of positions and career opportunities for graduates of the Certificate in Business Analytics include:

- Management Analyst/Consultant
- Research/Market Research Analyst
- Data Analyst
- Project Manager
- Financial Analytics
- Marketing Analytics
- Supply Chain Manager
- Business Intelligence Analyst
- Digital/Web/Social Media Analytics
- HR/Talent Analytics

The chart below shows a listing of position openings in key areas within analytics posted on LinkedIn in January 2018. This clearly demonstrates the need for individuals with the skill sets that will be acquired in the certificate program.

U.S. Analytics Position Ads on LinkedIn – January 15, 2018

| Analytics Area | Entry or Associate Level** | All Levels |
|------------------------|-----------------------------------|-------------------|
| Analytics | 67,156 | 118,662 |
| Business Analytics | 22,833 | 43,200 |
| Marketing Analytics | 10,042 | 21,783 |
| Google Analytics | 7,609 | 13,536 |
| Digital Analytics | 6,125 | 13,446 |
| Financial Analytics | 6,468 | 12,363 |
| Healthcare Analytics | 6,641 | 10,099 |
| Web Analytics | 5,640 | 10,211 |
| Social Media Analytics | 5,549 | 10,953 |
| Sales Analytics | 5,419 | 12,506 |
| HR/Talent Analytics | 1,686 | 4,406 |
| Advertising Analytics | 1,607 | 3,567 |
| Retail Analytics | 1,480 | 3,304 |
| Pricing Analytics | 1,421 | 2,755 |
| Supply Chain Analytics | 911 | 2,102 |

** Associate Level generally requires 3-5 years of experience or a Master's/advanced degree

Target Audience:

Potential target markets include: (1) MBA students interested in expanding their analytics knowledge or to improve their job prospects, (2) students in other graduate programs seeking to build credentials in business analytics, and (3) non-degree seeking professionals who wish to build credentials in business analytics.

Time to Complete:

The courses offered for the Graduate Certificate in Business Analytics will be offered as semester-long offerings. One course will be offered per semester. The certificate will be able to be completed by both full-time and part-time degree seeking students as well as non-degree seeking students. Based on current graduate enrollments in the Radford University College of Business & Economics, the proposed certificate will take 2 years to complete. However, increased enrollments in graduate courses within the college could shorten this path to completion as courses could then be offered more frequently.

Admissions:

English Language Proficiency (as established by the Radford University College of Graduate Studies & Research)

- For international students, applicants must demonstrate English proficiency prior to admission to the University. Radford University has established levels of proficiency for students whose native language is not English. The Test of English as a Foreign Language (TOEFL) is the primary evaluation tool to test your knowledge of English. English language proficiency is demonstrated by: TOEFL 550 or higher (paper-based); 213 or higher (computer-based); 79-80 or higher (internet-based). If you have taken the TOEFL, have the results sent directly to Radford University (code 5565) from the Education Testing Service, Princeton, New Jersey 08541. Information on the TOEFL is also available from U.S. embassies and consulates.
- The International English Language Testing System (IELTS) is a test that measures the language proficiency of people who want to study in environments where English is used as a language of communication. IELTS provides a valid and accurate assessment of the four language skills: listening, reading, writing and speaking. An easy to use 9-band scale clearly identifies proficiency level, from non-user (band score 1) through to expert (band score 9). A minimum score of 6.5 is required for admission to the College of Graduate Studies & Research.
- TOEFL and IELTS scores are valid for two years.

GPA Requirements

- Current Radford University graduate student in good standing or newly admitted Radford University graduate student (entering GPA determined by program in which they were admitted).
- For a student not currently enrolled in a graduate program at Radford University who possesses an earned graduate degree from Radford or another accredited institution, proof of degree completion is required.
- For a student not currently enrolled in a graduate program at Radford University who possesses an undergraduate degree as their highest degree earned, a minimum overall grade point average of 2.75 is required.

Other Requirements

- An official transcript from each college or university from which the student has earned a degree or post-baccalaureate credits
- A current resume
- Demonstrated foundational knowledge in statistics. This can be met through equivalent coursework from an accredited university, successful completion of an online preparation course through the Radford University College of Business and Economics, or sufficient demonstration of knowledge through work experience.

Curriculum Requirements:

Students will take three required business analytics courses and one business analytics elective. All of the required and elective courses are existing College of Business graduate courses and listed in the Radford University Graduate Catalog.

Number of Credit Hours: 12 graduate credit hours

Courses:

Required Courses – 9 credit hours

- MKTG 625 – Business Analytics Foundations (3 credit hours)
- MKTG 630 – Predictive Analytics & Data Mining (3 credit hours)
- FINC 651 - Financial Analytics: Applications for Data Analysis and Portfolio Construction (3 credit hours)

Restricted Electives – 3 credit hours

One course must be selected from the courses listed below.

- MGNT 622 - Quantitative Methods (3 credit hours)
- ECON 694 - Business Forecasting (3 credit hours)

Faculty:

Faculty appointments to teach in the certificate program are established by recommendation of the department chair for the home department for each course in the program. Faculty teaching in this program will be from the Departments of Economics, Finance, Management and Marketing.

The faculty teaching in this certificate program are full-time, teaching and research (T&R) faculty who are doctorally-qualified in the designated course area of instruction.

Course Delivery Format:

This program will be conducted using a hybrid delivery method. This will allow the program to be accessible by students taking courses at Radford University campus locations as well as online students. Thus, both physical space and software to facilitate synchronous (live in class and online simultaneously) and asynchronous online sessions are required. The University has adequate classroom and lab space. The University uses D2L to deliver course content and Zoom for synchronous connectivity between on-campus and off-campus students. The University also has licensed SAS software that can be accessed on-campus in computers labs or via a cloud-based Virtual Lab for online students. The University's SAS license also allows students to have the software installed on students' personal computers. The University provides technical support personnel who are available during synchronous class meetings, 24/7 D2L support and a technology assistance center.

Resources:

Resources required to support the graduate certificate program include existing resources such as student support services (e.g. enrollment, technology support, library, etc.), faculty support services, and general administration (e.g. budgeting and forecasting, etc.). More specific program administration is required to maintain contacts and involvement in appropriate networking events as well as conduct periodic program reviews to ensure the program is kept current with industry trends and market needs. No new positions will be created to initiate the certificate program. The University has adequate resources to offer and sustain this certificate program.

Gainful Employment: *(skip this section; the university will complete this section on your behalf)*

Course Descriptions:

Core Courses

MKTG 625 - Business Analytics Foundations (3 credit hours)

This course is an introduction to the field of Business Analytics and its extensive use of exploratory and predictive models in providing fact-based recommendations to assist management in optimizing decisions and actions. This is generally the first Business Analytics course taken by MBA students, thus developing the foundation for follow-on analytics coverage at the graduate level. The course will provide an overview of the field of Business Analytics and its extensive use of exploratory and predictive models in providing fact-based recommendations to assist management in optimizing decisions and actions. In addition to providing a foundational understanding of Business Analytics and its various applications, this course will provide students with grounding in the information technology components that are necessary for successful applications of analytics. Software used will include Excel, Tableau, Base SAS/SAS Studio and SAS Enterprise Guide.

MKTG 630 - Predictive Analytics and Data Mining (3 credit hours)

This course provides an in-depth understanding and application in Predictive Analytics and Data Mining techniques in order to solve strategic business problems. The course will provide MBA students with an in-depth understanding and application in Predictive Analytics and Data Mining and their extensive use of analytical reasoning and statistical and quantitative analysis. Exploratory and predictive analytics in providing fact-based models to assist management in making decisions and determining appropriate actions will be emphasized. Contemporary background readings from texts, contemporary articles from industry leaders and journal articles will provide the foundational knowledge of the various predictive analytics and data mining techniques. Applied exercises and projects will be used to provide students with an understanding of applications of Data Mining and Predictive Analytics to managerial decisions using “big” data through hands-on use of industry standard and emerging analytic tools and software. Software used will include Excel, Base SAS, SAS Enterprise Guide, and SAS Enterprise Miner.

Financial Analytics, Modeling, and Optimization -- FINC 651 (Existing Course)

This course familiarizes MBA students with topics ranging from data analysis to applied statistics to decision making in business finance. The main objective of this course is to give students a firsthand experience in applying various data analysis techniques that are very common and relevant at managerial level in corporate settings. The final group project will give students hands-on experience with the financial/investment decision-making process. Software used will include Excel, Base SAS, and SAS Enterprise Miner

Restricted electives – One course must be selected from the courses listed below.

MGNT 622 – Quantitative Methods (3 credit hours)

This course aims to enhance students' ability to obtain actionable decisions in business employing mathematical modeling and simulation in Prescriptive Analytics. It will train students how to approach to the best decision via modeling with logical thinking and ultimately reconstruct their thinking process in decision-making. Students will be exposed to a variety of practical business cases in various fields such as operations, supply chain, marketing, human resource, and finance. In each case, students will practice soft skills - partnering with clients and team members, framing problems, and communicating to decision makers - in order to figure out decision problems (decision variables) and required data. Then, students will learn various modeling skills and efficient solution methods with a proper selection of software. Once a solution is found from models, students will analyze solutions applying sensitivity analysis and simulation to look beyond simple solutions of models. The cases are closed with a discussion of the final decision and effective deployment methods. The course mainly consists of mathematical optimization models (linear, nonlinear, and integer programs) and Monte Carlo simulation, and other useful techniques (regression analysis, forecasting, and machine learning) for modeling will be covered. This course requires extensive hands-on practices with various data sets and models. Software used will include Excel, SAS, JMP, and IBM CPLEX.

ECON 694 - Business Forecasting (3 credit hours)

Forecasting is the art of predicting future conditions based on past data. As such, forecasts give us an added edge when trying to make better (more strategic) business and economic decisions. In this hands-on course, students will learn how to make forecasts using different types of business and economic data. Topics coverage includes introduction to forecasting, a review of basic statistical concepts, exploring data patterns and choosing a forecasting technique, moving averages and smoothing models, regression analysis, time series analysis, the Box-Jenkins (ARIMA) methodology, and judgmental elements in forecasting. Students will use Excel, JMP and SAS to produce forecasts.

MBA Graduate Concentration in Business Analytics

College of Graduate Studies and Research Revision of Existing Degree/Certificate Program
Form

Feb 9, 2018

MBA 03-18-021218

Date:

Proposal Number:

Department:

MBA

Contact Person:

Dr. Gary Schirr

Email:

Phone#

gschirr@radford.edu

Proposal with Rationale (State current status, proposed change, and why the change is desired.)

Attach add 831-6712

In addition to the 21 credit hours of required core courses in the MBA, the program currently requires that students take 6 credit hours of courses in Analytics, 6 credit hours of courses in Innovation, and 3 credit hours of free electives. As Business Analytics is an area in which graduates are in high demand, the COBE proposes that the MBA program offer an option for students to pursue a 15 credit hour Business Analytics Concentration (this will take the place of the current 15 hours that has been assigned to Analytics, Innovation, and free elective courses in the MBA). The Business Analytics Concentration will produce graduates who can understand and apply big data analysis to make meaningful decisions. Courses are designed to provide advanced skills and techniques that can be applied to discipline specific and more general business problems. This concentration will provide students with the foundations for building the skills to gain certifications in Tableau, Base SAS, SAS Enterprise Miner, Forecasting with the International Institute of Forecasters, and CAP (Certified Analytics Professional). The Business Analytics concentration will help the MBA program by:

1. Attracting additional students to the program
2. Allowing it to remain competitive with other institutions and business colleges
3. Supporting AACSB accreditation requirements
4. Producing MBA graduates with the business analytics skills needed and desired by industry

See attached sheets for additional justification for the Business Analytics Concentration in the MBA program.

College of Graduate Studies and Research
Revision of Existing Degree/Certificate Program Form

Please contrast the current program with the proposed program, including credits required for the degree. Make sure all changes are noted and include both the current and proposed program. Please include the “URL” in the catalog where changes need to be made.
Attach additional sheets if necessary.

| Existing Program | Proposed Program |
|--|---|
| <p>Required Courses (21 hours)</p> <ul style="list-style-type: none"> • ACTG 611 - Accounting for Decision Making and Control • MGNT 621 - Organizational Behavior and Managerial Skills • MGNT 624 - Operations Management • FINC 631 - Financial Management • MKTG 641 - Marketing Management • ECON 651 - Managerial Economics • MGNT 685 - Strategic Management <p>Approved Electives (12 hours)</p> <p><u>Analytics – 2 courses from the following</u> (6 hrs)</p> <ul style="list-style-type: none"> • MKTG 625 – Business Analytics Foundations • MKTG 630 – Predictive Analytics & Data Mining • FINC 631 – Financial Analytics: Applications for Data Analysis and Portfolio Construction <p><u>Innovation – 2 courses from the following</u> (6 hours)</p> <ul style="list-style-type: none"> • MGNT 630 – High Performance Innovation: People, Processes, and Organization • MKTG 658 – Service and Product Innovation for Organizations • ECON 631 – Institutions and Entrepreneurial Decision-Making <p>Free Electives (3 hours)</p> <p>Must be a course offered by COBE unless otherwise approved by the MBA director.</p> | <p>Required Courses (21 hours)</p> <ul style="list-style-type: none"> • ACTG 611 - Accounting for Decision Making and Control • MGNT 621 - Organizational Behavior and Managerial Skills • MGNT 624 - Operations Management • FINC 631 - Financial Management • MKTG 641 - Marketing Management • ECON 651 - Managerial Economics • MGNT 685 - Strategic Management <p>Business Analytics Concentration (15 hours)</p> <ul style="list-style-type: none"> • MKTG 625 – Business Analytics Foundations • MKTG 630 – Predictive Analytics & Data Mining • FINC 651 – Financial Analytics: Applications for Data Analysis and Portfolio Construction • MGNT 622 - Quantitative Methods • ECON 694 – Business Forecasting |

URL in Graduate Catalog:

http://catalog.radford.edu/preview_program.php?catoid=39&poid=4294&returnto=1488

Approvals:

Department Chair/ School Director

Date:

College Dean

Date:

Professional Education Committee (if applicable)

Date:

Dean, College of Graduate and Professional Studies

Date:

Provost

Date:

PROPOSAL TO ESTABLISH A BUSINESS ANALYTICS CONCENTRATION WITHIN THE MBA

DESCRIPTION

The 15-hour Business Analytics Concentration will be offered to COBE MBA students to help develop management professionals who can understand and apply big data analysis to make meaningful decisions. Courses are designed to provide advanced skills and techniques that can be applied to discipline specific and more general business problems. This concentration will provide students with the foundations for building the skills to gain certifications in Tableau, Base SAS, SAS Enterprise Miner, Forecasting with the International Institute of Forecasters, and CAP (Certified Analytics Professional).

RATIONALE

THE ESTABLISHMENT OF A BUSINESS ANALYTICS CONCENTRATION SUPPORTS THE RECOMMENDATION OF THE GRADUATE COLLEGE

Our MBA is no longer in high demand among students. Changes are necessary as can be seen by information provided by the Graduate College⁹

- The MBA program has experienced a 56% decline in enrollments in the past four years, from 84 in fall 2012 to 37 in fall 2016. We cannot continue the sharp decline.

TABLE 1
MBA Enrollments

| Year | Fall 2009 | Fall 2010 | Fall 2011 | Fall 2012 | Fall 2013 | Fall 2014 | Fall 2015 | Fall 2016 |
|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| MBA Headcount | 82 | 83 | 96 | 84 | 67 | 45 | 41 | 37 |

- In the past three years (2013-2015), amongst those students who were admitted to our MBA but not enrolled, **none** of our MBA applicants enrolled elsewhere. In the past 10 years, a total of only 9 students enrolled elsewhere after having been admitted to Radford University. This tells us that our applicant pool is mainly considering **only** Radford University.
- The Radford University MBA program removed itself from the Roanoke Higher Education Center market. Enrollment declined.
- The MBA program does not offer any concentrations and has minimal flexibility, at a time when flexibility within MBA programs is increasingly popular.

Graduate College Recommendations for the MBA Program

- Make sure the on-campus program is strong and receives attention. We cannot afford to abandon or to weaken our appeal to our on-campus market.
- Allow significantly more flexible choices for electives and consider implementing multiple concentrations within the program, including interdisciplinary options. In the current model, students have almost no choice in their program coursework.

⁹ Information presented by Laura Jacobsen, Acting Dean of the College of Graduate Studies and Research at the COBE meeting on April 14, 2017.

RATIONALE**THE ESTABLISHMENT OF A BUSINESS ANALYTICS CONCENTRATION WOULD HELP THE MBA TO REMAIN COMPETITIVE WITH OTHER INSTITUTIONS AND COLLEGES OF BUSINESS.**

A review was made of MBA programs at all 24 University/COBE Peer Institutions, Virginia University's colleges of business, other colleges of business used by Dean Low as COBE comparators, and a selection of other universities and colleges of business. It is clear that the trend is to offer students flexibility to pursue concentrations or tracks within MBA programs.

The COBE MBA has a 36 hour expectation which is consistent with schools offering a track or concentration and is in line with the total credit hours expected at other accredited schools.

Table 1
Required hours within MBA Programs

| 30 | 33 | 36 or greater |
|-----|----|---------------|
| 22 | 7 | 58 |
| 25% | 8% | 67% |

Examples of concentrations and tracks within other MBA programs is shown in Table 2 below.

RATIONALE**THE ESTABLISHMENT OF A BUSINESS ANALYTICS CONCENTRATION IS SUPPORTED BY THE AACSB**

This Decision Analytics Track is also supported by AACSB Standard 9: Curriculum. Specifically that an Accredited College of Business Curriculum should, at the bachelor's, master's, and doctoral level, include the following Knowledge Areas:

- Information technology and statistics/quantitative methods impacts on business practices to include data creation, data sharing, data analytics, data mining, data reporting, and storage between and across organizations including related ethical issues
- Analytical thinking (being able to analyze and frame problems)

And, at the master's level should also include:

- Making sound decisions and exercising good judgment under uncertainty

The proposed Business Analytics Concentration will include data creation, data sharing, data analytics, data mining, data reporting, decision making as well as related ethical issues. The proposed Business Analytics Concentration will also cover the three primary areas of analytics: Descriptive Analytics, Predictive Analytics, and Prescriptive Analytics.

RATIONALE**THE ESTABLISHMENT OF A BUSINESS ANALYTICS CONCENTRATION IS SUPPORTED BY A NEED FOR MBA GRADUATES WITH BUSINESS ANALYTICS SKILLS**

The MBA Business Analytics Concentration is founded on the belief that business managers do not always have a sense of what analytics can do for them, and data

TABLE 2
Concentrations/Tracks in MBA Programs

| Type | Institution | Concentrations available within the MBA |
|-------------|--|---|
| COBE Peers* | Clayton State University | Accounting, HR Leadership, International Business, Sports & Entertainment, Supply Chain |
| COBE Peers* | Georgia College & State University | MBA with a concentration in management information systems |
| COBE Peers* | Lamar University | Enterprise Resource Planning, Experiential Business & Entrepreneurship, Financial Management, Healthcare Administration, Leadership, Service Marketing and Management, Thematic, Dual MSA/MBA |
| COBE Peers* | Louisiana State University in Shreveport | General Business, Entrepreneurship and Family Enterprise, Finance, and Human Resource Management |
| COBE Peers* | Morehead State University | Health System Management |
| COBE Peers* | Southern Arkansas University | Supply Chain Management |
| COBE Peers* | Southern University and A&M College | Entrepreneurship, Human Resource Management, International Business, Supply Chain Management |
| COBE Peers* | Texas Southern University | Students have the option to either complete the general MBA program or pursue an MBA with a concentration in Health Care Administration, Accounting or Management Information Systems. |
| COBE Peers* | University of Baltimore | Either Entrepreneurial or Corporate Focus (nine hours within one of nine specializations: Entrepreneurship, Finance, Health-Care Management, Human Resource Management, International Business, Leadership and Organizational Learning, Management Information Systems, Marketing, Public-Sector Management) |
| COBE Peers* | University of Houston-Downtown | Accounting, Business Development, Finance, Human Resources, International Business, Investment Management, Leadership, Supply Chain. |
| COBE Peers* | University of North Carolina at Pembroke | Financial Services, Supply Chain |
| COBE Peers* | University of North Georgia | Technology Leadership |
| COBE Peers* | University of South Florida | Sports and Entertainment Management and Supply Chain Management -- 13 specialization areas are also available. |
| COBE Peers* | West Texas A & M University | Computer Information Systems, Management, Marketing, Healthcare Management |
| Other | American U | Consulting, Business Discipline, Managerial |
| Other | George Washington University | Accounting and Advisory Services, Consulting, Entrepreneurship, Finance, Global Management, Government Contracts, Information Systems Technology Management, Marketing Communications & Digital Marketing, Project Management, Sport Management, Tourism |
| Other | Howard University | The student may choose to either concentrate in a specific discipline or alternatively choose to complete a variety of elective courses to earn a general MBA. Students may choose one of the following disciplines: Entrepreneurship, Finance, Information Systems, International Business, Marketing, Supply Chain Management |
| Other | Indiana University of Penn | Accounting, Finance, Human Resource Management, Management Information Systems, International Business, and Marketing. |
| Other | Strayer University | Online MBA can be customized "with one of 14 functional concentrations" |
| Other | University of Maryland | Analytics, Consulting, Finance, innovation and entrepreneurship, Social Value, Global Business |
| SCHEV Peers | Appalachian State University | Business Analytics, Economics, International Business, Leading and Managing Human Resources, Supply Chain Management, Sustainable Business, Interdisciplinary Business |
| SCHEV Peers | California State University - Chico | Enterprise Information Systems and Project Management |
| SCHEV Peers | California State University - San Bernardino | Accounting, Business Intelligence and Information Technology, Cyber Security, Entrepreneurship, Finance, Global Supply Chain Management, Management, Marketing Management |
| SCHEV Peers | Gonzaga University | Accountancy, Science in Taxation, American Indian Entrepreneurship, Juris Doctor |
| SCHEV Peers | Hofstra University | Accounting, Business Analytics, Finance, Health Services Management, Human Resources Management, Information Systems, International Business, Management, Marketing, Marketing Research, Professional Accountancy, Quality Management, Quantitative Finance, Sports & Entertainment Management, Strategic Healthcare Management, Taxation |

TABLE 2
Concentrations/Tracks in MBA Programs

| Type | Institution | Concentrations available within the MBA |
|-------------|--|---|
| SCHEV Peers | Indiana University of Pennsylvania - Main Campus | Accounting, Finance, Human Resource Management, Management Information Systems, International Business, Marketing |
| SCHEV Peers | Loyola Marymount University | Managing People and Organizations, Financial and Managerial Accounting, Global Economic Structures and Systems, Managing Markets and Customer Relationships, Managing Operations, Strategic Management, Managing Financial Resources, Data, Models and Decisions, Managing Information Systems, Managing International Business |
| SCHEV Peers | Minnesota State University - Mankato | Leadership and Organizational Change, International Business, Healthcare Management |
| SCHEV Peers | Rowan University | Accounting, Finance, Management, Management Information Systems, Supply Chain Management, MS in Finance |
| SCHEV Peers | Seattle University | Certificates with minimum of 15 credits |
| SCHEV Peers | Texas Christian University | Accounting, Finance (Corporate and Investments), Marketing (Product/Brand Management and Marketing Management), Supply and Value Chain Management |
| SCHEV Peers | The University of Tampa | Business Analytics, Entrepreneurship, Finance, Information Systems Management, Innovation Management, International Business, Marketing, Nonprofit Management |
| SCHEV Peers | University of Northern Colorado | Healthcare Administration, Human Resources Management |
| SCHEV Peers | University of Wisconsin - Oshkosh | Health Care Management, Human Resource Management, International Business, Marketing, Management Information Systems, Project Management |
| SCHEV Peers | Western Carolina University | Accountancy, Entrepreneurship, Project Management, Sport Management |
| SCHEV Peers | William Paterson University of New Jersey | Accounting, Entrepreneurship, Finance, Marketing, Music Management |
| SCHEV Peers | Winthrop University | Accounting, Finance, International Business, Human Resources, Marketing, Strategic Leadership |
| VA | Averett University | Marketing, Leadership, and HR |
| VA | George Mason | Accounting, Business Analytics, Entrepreneurship, Financial Management, Information Systems Management, International Business, Leadership, Marketing, Project Management, Real Estate |
| VA | JMU | Executive Leadership, Information Security, Innovation |
| VA | Liberty | Accounting, American Legal Studies, Criminal Justice Administration, Healthcare Management, Human Resources, International Business, International Legal Studies, Leadership, Marketing, Project Management, Public Administration, Public Relations |
| VA | Longwood | General Business or Real Estate |
| VA | ODU | Maritime and Port Management, Modeling and Simulation, Public Procurement and Contract Management, Executive Health Science Administration |
| VA | VCU | Business Analytics, Corporate Finance, Entrepreneurship and Innovation, Global Business, Information Resources Management, Investments, Real Estate, Supply Chain Management, Health Care Management |
| VA | William & Mary | Business Analytics, Consulting Finance, General Management, Innovation and Entrepreneurship, Marketing, Operations and Supply Chain Management. And Healthcare |

*NOTE: COBE Peer Institutions were obtained from Dean Low who said these are the schools often used in selecting an AACSB team for Radford. Others in the Radford Peer Institutions are also used.

NOTE: SCHEV Peer Institutions were obtained from the RU IR website. These institutions were negotiated with SCHEV in 2005 and have been used in salary equity studies to maintain RU faculty salaries at the 60% of our peers.

understand enough about a manager's problem to be helpful. The Director of IBM's Global University Programs, Jim Spohrer, has said, *"It's not like we could solve the problem if we had more computer scientists in data analytics. The fact of the matter is we need marketing people who know big data analytics. We need health care people who know big data analytics."*¹⁰ What is needed are MBAs who are fully grounded in the domain of business and who are knowledgeable and skilled in analytics; MBAs with a passion for finding data informed decisions to problems and opportunities facing businesses in a growing interconnect global environment.

In its 2016 Corporate Recruiters Survey, the Graduate Management Admissions Council (GMAC) reported that companies are seeking graduates with strong analytical skills and expertise in using software to include Excel, SAS, SQL, SPSS and Tableau. The survey also reported that "employers are looking for much more than technical skills. Aside from robust analytical and quantitative talents, employers require candidates who can demonstrate interpersonal, communication, and team-building skills – the common building blocks in the MBA." As recruiter from a small U.S. based consulting company put it: *We have no interest in individuals who focus solely on data analytics. We want influencers, not statisticians.*¹¹ Analytics is a booming business, thanks to the rise in big data, and MBA programs are embracing the trend as it continues to be evident that skills in data analytics opens doors for career opportunities.¹²

The need for analytics skills was also reinforced by members of the COBE Advisory Council. At a recent meeting of the group, they emphasized the need for employees who not only know how to analyze Big Data, but how to use the findings strategically in creating a competitive advantage for a company. Additionally, there has been a steady growth in analytics jobs over the past five years. The U.S. Bureau of Labor Statistics predicts that there will be a 24 percent increase in demand for professionals with management analysis skills over the next eight years with employers needing 876,000 business analysis related professionals by 2020.¹³ The McKinsey Global Institute predicts there will be a shortage of talent necessary for organizations to take advantage of Big Data¹⁴. Currently, the United States faces a shortage of 140,000 to 190,000 people with deep analytical skills as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions. A recent Computerworld survey reported that 24% of respondents were planning to hire data analytics professionals; yet all those respondents also expected this skill to be the most difficult to find.¹⁵ The need for talent with analytical skills continues to be strong due to

¹⁰ **As Demand for Big Data Analysts Grows, Schools Rush to Graduate Students with Necessary Skills**, The Washington Post, September 15, 2013.

¹¹ **To Fill Data Analytics Roles, Employers Seek More than Just Technical Skills from B-Schools**, GMAC, September 15, 2016, accessed at: <http://www.gmac.com/market-intelligence-and-research/research-insights/employment-outlook/to-fill-data-analytics-roles-employers-seek-more-than-just-technical-skills-from-b-school-grads.aspx>.

¹² The Top Five MBA Trends for 2016, **MBA Channel**, December 5, 2016, accessed at: <http://www.mba-channel.com/channel/article/the-top-five-mba-trends-for-2016/>.

¹³ U.S. Bureau of Labor Statistics, Employment Projections Program.

¹⁴ Big Data: The Next Frontier for Innovation, Competition, and Productivity, (May 2011). McKinsey & Company, McKinsey Global Institute.

¹⁵ **Data. Insights. Action.** PASS Business Analytics Conference Announcement (2015 accessed at: <http://passbaconference.com/2016/Home.aspx>)

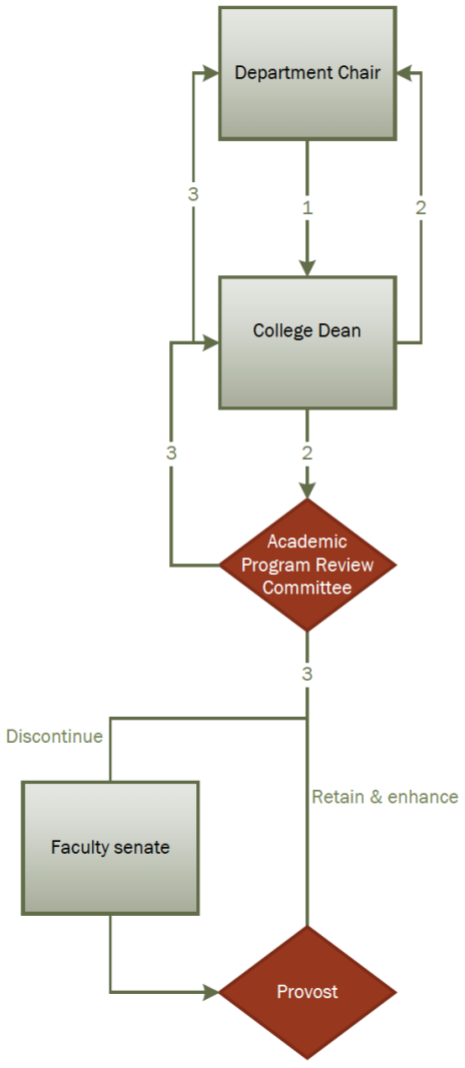
the increased convergence of analytics and business¹⁶ with worldwide revenues for big data and business analytics estimated to be more than \$203 billion in 2020.¹⁷

¹⁶ Business Analysis Trends for 2016, **Intelligence, Integrity and Innovation**, January 13, 2016, accessed at: <http://blog.iil.com/business-analysis-trends-for-2016/>.

¹⁷ Double-Digit Forecast Growth for the Worldwide Big Data and Business Analytics Market Through 2020, **IDC**, October 3, 2016, accessed at: <https://www.idc.com/getdoc.jsp?containerId=prUS41826116>.

Updated Academic Program Review Pathway

Academic Program Review: For proposals initiated via academic program review



- 1. Department submits reports to the Dean by November 30.
- 2. Dean reviews reports and submits to APRC by January 31, copy to Department Chair/Director
- 3. APRC's report sent to Department faculty & Chair, and college dean by March 15. Simultaneously, recommendations to retain/enhance go to the Provost; to discontinue go to the Faculty Senate, for review and comment.

Notes:
A) The dean and department chair may submit a written response to the recommendation by April 1st to Faculty Senate (for recommendations of discontinuance) or to the Provost.
B) Actions by Provost that require BOV/SCHEV/SACSCOC approval or notification follow paths for those proposals.