To Whom It May Concern:

This cover letter outlines the proposed curricular changes to the Computing in the Arts (CITA), BA degree. These changes are introduced to

a) strengthen degree requirements, in preparation for seeking national ABET accreditation for the major,

b) add a new concentration to address student demand and industry trends, and

c) improve the organization/structure of the curriculum.

In particular, the proposed changes are as follows:

1. Add new concentration, "Digital Media" to prepare students to synthesize computing with visual art, communication and entrepreneurship.

2. Add new course, CITA/CSCI 140 "Graphic Design and Digital Media" to serve as an introduction to computer programming related to image generation and applying graphic design principles to digital media.

3. Change the description and of CITA/CSCI 180, "Computers, Music, and Art", to better reflect how the course has evolved over time, from being the only introductory course in the major, to one of three. The course emphasizes computer programming related to music making, live performance, and interaction.


5. Add MUSC 349, "Jazz Arranging", to list of Music electives in the Music concentration.

All required forms are attached.

Respectfully submitted,

Bill Manaris, Ph.D.
Director, Computing in the Arts Program
Professor, Computer Science Department
FACULTY CURRICULUM COMMITTEE
SIGNATURE PAGE

- In section A, list ALL of the forms covered by this signature page. If you submit a form that is not listed in A, your proposal will be held back until we receive a new, updated signature page.
- You must obtain the signature of your department chair and dean before submitting your proposal.

A. FORMS COVERED BY THIS SIGNATURE PAGE. List each form you are submitting—for instance, PSYC 383, Course Form; PSYC, Change of Major Form; PSYC, Change of Minor Form.

1. CITA 140 Course Add Form
2. CSCI 140 Course Add Form (cross-listed)
3. CITA 180 Course Change Form
4. CSCI 180 Course Change Form (cross-listed)
5. CITA Program Change Form

B. APPROVAL AND SIGNATURES.

1. Signature of Department Chair or Program Director:
   
   Date: 12/2/15

2. Signature of Academic Dean:
   
   Date: 12/6/15

3. Signature of Provost:
   
   Date: 1/8/16

4. Signature of Business Affairs (only for course fees):
   
   Date: 
   □ fee approved on __________
   □ BOT approval pending

5. Signature of Curriculum Committee Chair:
   
   Date: 1-15-16

6. Signature of Budget Committee Chair (only for new programs):
   
   Date: 

7. Signature of Academic Planning Committee Chair (only for new programs):
   
   Date: 

8. Signature of Faculty Senate Secretary:
   
   Date: 

Date Approved by Faculty Senate: ____________________________

12-07-15P0:26 RCVD
FACULTY CURRICULUM COMMITTEE
COURSE FORM

Instructions:
• Please fill out one of these forms for each course you are adding, changing, deactivating, or reactivating.
• Fill out the parts of the form specified in part B. You must do this before your request can move forward!
• Remember that your changes will not be implemented until the next catalog year at the earliest.
• If you have questions, start by checking the instructions on the website. Please feel free to contact the committee chairs with any remaining questions you might have.

A. CONTACT/COURSE INFORMATION.

Name: Bill Manaris  Phone: x38159  Email: manarisb@cofc.edu

Department or Program: CITA  School: SSM

Subject Acronym and Course Number: CITA 140

Catalog Year in which changes will take effect: FALL 2016

B. TYPE OF REQUEST. Please check all that apply, then fill out the specified parts of the form.

☐ Add a New Course (complete parts C, D, F, G, H, I, J)
☐ Change Part of an Existing Course (complete parts C, D, E, F, G, H, I, J)
  ☐ Course Number (you must submit a course deactivation request for the old course number)
  ☐ Course Name
  ☐ Course Description
  ☐ Credit/Contact Hours
  ☐ Restrictions (prerequisites, co-requisites, junior/senior standing, etc.)
☐ Deactivate an Existing Course (complete parts C, D, E, G, I, J)
☐ Reactivate a Previously-Deactivated Course (complete parts C, D, E, G, I, J)

C. RATIONALE AND EXPLANATION. Please describe your request and explain why you are making it.

This course focuses on computer programming related to image generation and applying graphic design principles to digital media. It will serve as one of the intro CITA synthesis courses (CITA 120, CITA 180), and will be used in conjunction with the new CITA concentration.

Course description:

CITA 140: A course introducing the creative side of computing in the context of applying graphic design principles in digital media. It emphasizes computer programming related to image processing. Students will produce raster and vector graphics, motion graphics, and interactive web applications while implementing the fundamentals of graphic design.

Prerequisites: None

D. IMPACT ON EXISTING PROGRAMS AND COURSES. Please briefly describe the impact of your request on your own programs and courses as well other programs and courses. If another program requires the course, you must submit their written acknowledgement with this proposal. Also, the affected program must describe any change in the number of credit hours they require. Include a list of similar courses in other departments and explain any overlap.

None.

This form was last updated on 12/13/13 and replaces all others.
E. EXISTING COURSE INFORMATION. If you are proposing a new course, just leave this blank. Otherwise, please fill out all fields.

Department: 
School: 
Subject Acronym: 
Course Number: 

Credit hours: _ lecture _ lab _ seminar _ independent study
Contact hours: _ lecture _ lab _ seminar _ independent study

Course title:

Course description (maximum 50 words, exactly as it appears in the catalog):

Restrictions (pre-requisites, co-requisites, majors only, etc.):

Cross-listing, if any:

Is this course repeatable? ☐ yes ☐ no If yes, how many total credit hours may the student earn? ___

F. NEW COURSE INFORMATION. If you are deactivating a course, leave this blank. Otherwise, please fill out all fields. For changed courses, use boldface for the information that is changing.

Department: GSCI 
School: SSM 
Subject Acronym: CIT 
Course Number: 140

Credit hours: _3_ lecture _ lab _ seminar _ independent study
Contact hours: _3_ lecture _ lab _ seminar _ independent study

Course title: Graphic Design and Digital Media

Course description (maximum 50 words, exactly as it appears in the catalog):

A course introducing the creative side of computing in the context of applying graphic design principles in digital media. It emphasizes computer programming related to image processing. Students will produce raster and vector graphics, motion graphics, and interactive web applications while implementing the fundamentals of graphic design.

Restrictions (pre-requisites, co-requisites, majors only, etc.):

None

If this is a newly-created course, is it intended to be the equivalent of an existing course? ☒ yes ☐ no
If so, which course? __________

If equivalent, will the newly-created course replace the existing course? ☐ yes ☐ no
Note: If yes, you must deactivate that course by submitting an additional Course Form.

Cross-listing, if any (submit approval from relevant department): CSCI 140 ___
Note: Cross-listed courses are equivalent.

Is this course repeatable? ☐ yes ☒ no If yes, how many total credit hours may the student earn? ___

Is there an activity, lab, or other fee associated with this course? ☐ yes ☒ no What is the fee? $___
Note: The Senate cannot approve new fees; Business Affairs will submit any such request to the Board of Trustees. The course can still be created, but the fee will not be attached until the Board has approved it.

This form was last updated on 12/13/13 and replaces all others.
G. COSTS. List all of the new costs or cost savings (including new faculty/staff requests, library, equipment, etc.) associated with your request.

None.

H. STUDENT LEARNING OUTCOMES AND ASSESSMENT.

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Method and Performance Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>What will students know and be able to do when they complete the course?</td>
<td>How will each outcome be measured? Who will be assessed, when, and how often? How well should students be able to do on the assessment?</td>
</tr>
<tr>
<td>1. Students will create digital media applying graphic design principles.</td>
<td>Homework assignments, tests, and final. Students need to earn C- or higher.</td>
</tr>
<tr>
<td>2. Students will apply fundamental concepts of computer programming (sequence, selection, iteration).</td>
<td>Same as above.</td>
</tr>
<tr>
<td>3. Students will develop algorithms synthesizing digital design, interactive media, and data visualization.</td>
<td>Same as above.</td>
</tr>
</tbody>
</table>

4.

How does this course align with the student learning outcomes articulated for the major, program, or general education? What program-level outcome or outcomes does it support? Is the content or skill introduced, reinforced, or demonstrated in this course?

The CITA major synthesizes art and computer programming. This course combines graphic design, digital media, and data visualization with fundamentals of computer programming (sequence, selection, iteration).

I. PROGRAM CHANGES. Will this course be added to the existing degree requirements or list of approved electives of a major, minor, or concentration? ☒ yes ☐ no

If yes, please attach a Change Minor and/or Change Major/Program Form as appropriate.
J. CHECKLIST.

☒ I have completed all relevant parts of the form.

☒ I have attached a cover letter that describes my request and lists all the documents I am submitting.

☒ (For new courses only) I have attached a syllabus.

☐ (For courses used in any way by other departments, including cross-listing) I have attached an acknowledgement from the relevant department.

☐ (For courses intended to fulfill a Gen Ed requirement) I have submitted the proposal to the Gen Ed committee.

☒ I have submitted one Signature Form that lists all of the different forms I am submitting.
FACTOR CURRICULUM COMMITTEE
COURSE FORM

Instructions:
• Please fill out one of these forms for each course you are adding, changing, deactivating, or reactivating.
• Fill out the parts of the form specified in part B. You must do this before your request can move forward!
• Remember that your changes will not be implemented until the next catalog year at the earliest.
• If you have questions, start by checking the instructions on the website. Please feel free to contact the committee chairs
  with any remaining questions you might have.

A. CONTACT/COURSE INFORMATION.

Name: Bill Manaris Phone: x38159 Email: manarisb@cofc.edu

Department or Program: CITA School: SSM

Subject Acronym and Course Number: CSCI 140

Catalog Year in which changes will take effect: FALL 2016

B. TYPE OF REQUEST. Please check all that apply, then fill out the specified parts of the form.

☒ Add a New Course (complete parts C, D, F, G, H, I, J)
☐ Change Part of an Existing Course (complete parts C, D, E, F, G, I, J)
  ☐ Course Number (you must submit a course deactivation request for the old course number)
  ☐ Course Name
  ☐ Course Description
  ☐ Credit/Contact Hours
  ☐ Restrictions (prerequisites, co-requisites, junior/senior standing, etc.)
☐ Deactivate an Existing Course (complete parts C, D, E, G, I, J)
☐ Reactivate a Previously-Deactivated Course (complete parts C, D, E, G, I, J)

C. RATIONALE AND EXPLANATION. Please describe your request and explain why you are making it.

This course focuses on computer programming related to image generation and applying graphic design
principles to digital media. It will serve as one of the intro CITA synthesis courses (CITA 120, CITA 180),
and will be used in conjunction with the new CITA concentration.

Course description:

CSCI 140: A course introducing the creative side of computing in the context of applying graphic design
principles in digital media. It emphasizes computer programming related to image processing. Students
will produce raster and vector graphics, motion graphics, and interactive web applications while
implementing the fundamentals of graphic design.

Prerequisites: None

D. IMPACT ON EXISTING PROGRAMS AND COURSES. Please briefly describe the impact of your request on your own
programs and courses as well other programs and courses. If another program requires the course, you must submit their
written acknowledgement with this proposal. Also, the affected program must describe any change in the number of credit
hours they require. Include a list of similar courses in other departments and explain any overlap.

None.
E. EXISTING COURSE INFORMATION. If you are proposing a new course, just leave this blank. Otherwise, please fill out all fields.

Department: 
School: 
Subject Acronym: 
Course Number: 

Credit hours: ___ lecture ___ lab ___ seminar ___ independent study 
Contact hours: ___ lecture ___ lab ___ seminar ___ independent study 

Course title: 

Course description (maximum 50 words, exactly as it appears in the catalog): 

Restrictions (pre-requisites, co-requisites, majors only, etc.): 

Cross-listing, if any: 

Is this course repeatable?  yes  no  If yes, how many total credit hours may the student earn? 

F. NEW COURSE INFORMATION. If you are deactivating a course, leave this blank. Otherwise, please fill out all fields. For changed courses, use boldface for the information that is changing.

Department: CSCI  
School: SSM  
Subject Acronym: CSCI  
Course Number: 140 

Credit hours: ___3__ lecture ___ lab ___ seminar ___ independent study 
Contact hours: ___3__ lecture ___ lab ___ seminar ___ independent study 

Course title: Graphic Design and Digital Media 

Course description (maximum 50 words, exactly as it appears in the catalog): 

A course introducing the creative side of computing in the context of applying graphic design principles in digital media. It emphasizes computer programming related to image processing. Students will produce raster and vector graphics, motion graphics, and interactive web applications while implementing the fundamentals of graphic design. 

Restrictions (pre-requisites, co-requisites, majors only, etc.): 

None 

If this is a newly-created course, is it intended to be the equivalent of an existing course?  yes  no 
If so, which course? 

If equivalent, will the newly-created course replace the existing course?  yes  no 
Note: If yes, you must deactivate that course by submitting an additional Course Form. 

Cross-listing, if any (submit approval from relevant department):  CITA 140  
Note: Cross-listed courses are equivalent. 

Is this course repeatable?  yes  no  If yes, how many total credit hours may the student earn? 

Is there an activity, lab, or other fee associated with this course?  yes  no  What is the fee? $ 
Note: The Senate cannot approve new fees; Business Affairs will submit any such request to the Board of Trustees. The course can still be created, but the fee will not be attached until the Board has approved it.
G. COSTS. List all of the new costs or cost savings (including new faculty/staff requests, library, equipment, etc.) associated with your request.

None.

H. STUDENT LEARNING OUTCOMES AND ASSESSMENT.

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Method and Performance Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>What will students know and be able to do when they complete the course?</td>
<td>How will each outcome be measured? Who will be assessed, when, and how often? How well should students be able to do on the assessment?</td>
</tr>
<tr>
<td>1. Students will create digital media applying graphic design principles.</td>
<td>Homework assignments, tests, and final. Students need to earn C- or higher.</td>
</tr>
<tr>
<td>2. Students will apply fundamental concepts of computer programming (sequence, selection, iteration).</td>
<td>Same as above.</td>
</tr>
<tr>
<td>3. Students will develop algorithms synthesizing digital design, interactive media, and data visualization.</td>
<td>Same as above.</td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>

How does this course align with the student learning outcomes articulated for the major, program, or general education? What program-level outcome or outcomes does it support? Is the content or skill introduced, reinforced, or demonstrated in this course?

The CITA major synthesizes art and computer programming. This course combines graphic design, digital media, and data visualization with fundamentals of computer programming (sequence, selection, iteration).

I. PROGRAM CHANGES. Will this course be added to the existing degree requirements or list of approved electives of a major, minor, or concentration? ☑ yes ☐ no

If yes, please attach a Change Minor and/or Change Major/Program Form as appropriate.
J. CHECKLIST.

☒ I have completed all relevant parts of the form.

☒ I have attached a cover letter that describes my request and lists all the documents I am submitting.

☒ (For new courses only) I have attached a syllabus.

☐ (For courses used in any way by other departments, including cross-listing) I have attached an acknowledgement from the relevant department.

☐ (For courses intended to fulfill a Gen Ed requirement) I have submitted the proposal to the Gen Ed committee.

☒ I have submitted one Signature Form that lists all of the different forms I am submitting.
FACULTY CURRICULUM COMMITTEE
COURSE FORM

Instructions:
- Please fill out one of these forms for each course you are adding, changing, deactivating, or reactivating.
- Fill out the parts of the form specified in part B. You must do this before your request can move forward!
- Remember that your changes will not be implemented until the next catalog year at the earliest.
- If you have questions, start by checking the instructions on the website. Please feel free to contact the committee chairs with any remaining questions you might have.

A. CONTACT/COURSE INFORMATION.

Name: Bill Manaris Phone: x38159 Email: manarisb@cofc.edu

Department or Program: CITA School: SSM

Subject Acronym and Course Number: CITA 180

Catalog Year in which changes will take effect: FALL 2016

B. TYPE OF REQUEST. Please check all that apply, then fill out the specified parts of the form.

☐ Add a New Course (complete parts C, D, F, G, H, I, J)
☒ Change Part of an Existing Course (complete parts C, D, E, F, G, I, J)
☐ Course Number (you must submit a course deactivation request for the old course number)
☐ Course Name
☒ Course Description
☐ Credit/Contact Hours
☐ Restrictions (prerequisites, co-requisites, junior/senior standing, etc.)
☐ Reactivate an Existing Course (complete parts C, D, E, G, I, J)
☐ Reactivate a Previously-Deactivated Course (complete parts C, D, E, G, I, J)

C. RATIONALE AND EXPLANATION. Please describe your request and explain why you are making it.

Change course description:

New: "A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Emphasis will be given to computer programming for music making, live performance, and interaction. Students will develop several digital artifacts and elementary musical compositions."

Old: "A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Students will be exposed to media modeling and computational thinking in the liberal arts and sciences. Students will develop several digital artifacts."

Course Description Rationale:

The new description better reflects the content of the course (as it has evolved over time)

D. IMPACT ON EXISTING PROGRAMS AND COURSES. Please briefly describe the impact of your request on your own programs and courses as well other programs and courses. If another program requires the course, you must submit their written acknowledgement with this proposal. Also, the affected program must describe any change in the number of credit hours they require. Include a list of similar courses in other departments and explain any overlap.

None.

This form was last updated on 12/13/13 and replaces all others.
E. EXISTING COURSE INFORMATION. If you are proposing a new course, just leave this blank. Otherwise, please fill out all fields.

Department: CSCI School: SSM Subject Acronym: CITA Course Number: 180

Credit hours: _3_ lecture _ lab _ seminar _ independent study
Contact hours: _3_ lecture _ lab _ seminar _ independent study

Course title: Computers, Music, and Art

Course description (maximum 50 words, exactly as it appears in the catalog):

A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Students will be exposed to media modeling and computational thinking in the liberal arts and sciences. Students will develop several digital artifacts

Restrictions (pre-requisites, co-requisites, majors only, etc.):

None.

Cross-listing, if any:

Is this course repeatable? ☑ yes ☐ no If yes, how many total credit hours may the student earn? ___

F. NEW COURSE INFORMATION. If you are deactivating a course, leave this blank. Otherwise, please fill out all fields. For changed courses, use boldface for the information that is changing.

Department: CSCI School: SSM Subject Acronym: CITA Course Number: 180

Credit hours: _3_ lecture _ lab _ seminar _ independent study
Contact hours: _3_ lecture _ lab _ seminar _ independent study

Course title: Computers, Music, and Art

Course description (maximum 50 words, exactly as it appears in the catalog):

A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Emphasis will be given to computer programming for music making, live performance, and interaction. Students will develop several digital artifacts and elementary musical compositions.

Restrictions (pre-requisites, co-requisites, majors only, etc.):

None.

If this is a newly-created course, is it intended to be the equivalent of an existing course? ☑ yes ☐ no If so, which course? __________

If equivalent, will the newly-created course replace the existing course? ☑ yes ☐ no Note: If yes, you must deactivate that course by submitting an additional Course Form.

Cross-listing, if any (submit approval from relevant department): CSCI 180

Note: Cross-listed courses are equivalent.

Is this course repeatable? ☑ yes ☐ no If yes, how many total credit hours may the student earn? ___

This form was last updated on 12/13/13 and replaces all others.
Is there an activity, lab, or other fee associated with this course? □ yes  ☒ no  What is the fee? $_____

Note: The Senate cannot approve new fees; Business Affairs will submit any such request to the Board of Trustees. The course can still be created, but the fee will not be attached until the Board has approved it.

G. **COSTS.** List all of the new costs or cost savings (including new faculty/staff requests, library, equipment, etc.) associated with your request.

None.

### H. **STUDENT LEARNING OUTCOMES AND ASSESSMENT.**

<table>
<thead>
<tr>
<th><strong>Student Learning Outcomes</strong></th>
<th><strong>Assessment Method and Performance Expected</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>What will students know and be able to do when they complete the course?</td>
<td>How will each outcome be measured? Who will be assessed, when, and how often? How well should students be able to do on the assessment?</td>
</tr>
</tbody>
</table>

| 1. Understand the fundamentals of music theory and create musical studies modeled on pre-existing works. | Homework assignments, tests, and final. Students need to earn C- or higher. |
| 2. Use numeric and string data types, variables, arithmetic operators and expressions, if statements, for-loops, functions, and predefined classes (object-based programming). | Same as above. |
| 3. Develop elementary musical compositions and engage in live performance. | Same as above. |
| 4. Understand events and graphical user interfaces and use them to develop simple computer-based instruments for electroacoustic music. | Same as above. |
How does this course align with the student learning outcomes articulated for the major, program, or general education? What program-level outcome or outcomes does it support? Is the content or skill introduced, reinforced, or demonstrated in this course?

The CITA major synthesizes art and computer programming. This course combines music transcription, composition, and live performance with fundamentals of computer programming (sequence, selection, iteration).

I. PROGRAM CHANGES. Will this course be added to the existing degree requirements or list of approved electives of a major, minor, or concentration? □ yes ☒ no

If yes, please attach a Change Minor and/or Change Major/Program Form as appropriate.

J. CHECKLIST.

☒ I have completed all relevant parts of the form.

☒ I have attached a cover letter that describes my request and lists all the documents I am submitting.

☐ (For new courses only) I have attached a syllabus.

☐ (For courses used in any way by other departments, including cross-listing) I have attached an acknowledgement from the relevant department.

☐ (For courses intended to fulfill a Gen Ed requirement) I have submitted the proposal to the Gen Ed committee.

☒ I have submitted one Signature Form that lists all of the different forms I am submitting.
Instructions:

- Please fill out one of these forms for each course you are adding, changing, deactivating, or reactivating.
- Fill out the parts of the form specified in part B. You must do this before your request can move forward!
- Remember that your changes will not be implemented until the next catalog year at the earliest.
- If you have questions, start by checking the instructions on the website. Please feel free to contact the committee chairs with any remaining questions you might have.

A. CONTACT/COURSE INFORMATION.

Name: Bill Manaris  Phone: x38159  Email: manarisb@cofc.edu

Department or Program: CITA  School: SSM

Subject Acronym and Course Number: CSCI 180

Catalog Year in which changes will take effect: FALL 2016

B. TYPE OF REQUEST. Please check all that apply, then fill out the specified parts of the form.

☐ Add a New Course (complete parts C, D, F, G, H, I, J)
☒ Change Part of an Existing Course (complete parts C, D, E, F, G, I, J)
☐ Course Number (you must submit a course deactivation request for the old course number)
☐ Course Name
☒ Course Description
☐ Credit/Contact Hours
☐ Restrictions (prerequisites, co-requisites, junior/senior standing, etc.)
☐ Deactivate an Existing Course (complete parts C, D, E, F, G, I, J)
☐ Reactivate a Previously-Deactivated Course (complete parts C, D, E, G, I, J)

C. RATIONALE AND EXPLANATION. Please describe your request and explain why you are making it.

Change course description:

New: "A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Emphasis will be given to computer programming for music making, live performance, and interaction. Students will develop several digital artifacts and elementary musical compositions."

Old: "A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Students will be exposed to media modeling and computational thinking in the liberal arts and sciences. Students will develop several digital artifacts."

Course Description Rationale:

The new description better reflects the content of the course (as it has evolved over time)

D. IMPACT ON EXISTING PROGRAMS AND COURSES. Please briefly describe the impact of your request on your own programs and courses as well other programs and courses. If another program requires the course, you must submit their written acknowledgement with this proposal. Also, the affected program must describe any change in the number of credit hours they require. Include a list of similar courses in other departments and explain any overlap.

None.

This form was last updated on 12/13/13 and replaces all others.
E. EXISTING COURSE INFORMATION. If you are proposing a new course, just leave this blank. Otherwise, please fill out all fields.

Department: CSCI          School: SSM  Subject Acronym: CSCI  Course Number: 180

Credit hours:    _3_ lecture _ lab _ seminar _ independent study
Contact hours:    _3_ lecture _ lab _ seminar _ independent study

Course title: Computers, Music, and Art

Course description (maximum 50 words, exactly as it appears in the catalog):

A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Students will be exposed to media modeling and computational thinking in the liberal arts and sciences. Students will develop several digital artifacts.

Restrictions (pre-requisites, co-requisites, majors only, etc.):

None.

Cross-listing, if any:

Is this course repeatable? □ yes  ☒ no  If yes, how many total credit hours may the student earn? ___

F. NEW COURSE INFORMATION. If you are deactivating a course, leave this blank. Otherwise, please fill out all fields. For changed courses, use boldface for the information that is changing.

Department: CSCI          School: SSM  Subject Acronym: CSCI  Course Number: 180

Credit hours:    _3_ lecture _ lab _ seminar _ independent study
Contact hours:    _3_ lecture _ lab _ seminar _ independent study

Course title: Computers, Music, and Art

Course description (maximum 50 words, exactly as it appears in the catalog):

A course introducing the creative side of computing in the context of music, sounds, images, and other digital artifacts. Emphasis will be given to computer programming for music making, live performance, and interaction. Students will develop several digital artifacts and elementary musical compositions.

Restrictions (pre-requisites, co-requisites, majors only, etc.):

None.

If this is a newly-created course, is it intended to be the equivalent of an existing course? □ yes  □ no
If so, which course? __________

If equivalent, will the newly-created course replace the existing course? □ yes  □ no
Note: If yes, you must deactivate that course by submitting an additional Course Form.

Cross-listing, if any (submit approval from relevant department):  __CITA 180____
Note: Cross-listed courses are equivalent.

Is this course repeatable? □ yes  ☒ no  If yes, how many total credit hours may the student earn? ___

This form was last updated on 12/13/13 and replaces all others.
G. COSTS. List all of the new costs or cost savings (including new faculty/staff requests, library, equipment, etc.) associated with your request.

None.

H. STUDENT LEARNING OUTCOMES AND ASSESSMENT.

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Method and Performance Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>What will students know and be able to do when they complete the course?</td>
<td>How will each outcome be measured? Who will be assessed, when, and how often? How well should students be able to do on the assessment?</td>
</tr>
<tr>
<td>1. Understand the fundamentals of music theory and create musical studies modeled on pre-existing works.</td>
<td>Homework assignments, tests, and final. Students need to earn C- or higher.</td>
</tr>
<tr>
<td>2. Use numeric and string data types, variables, arithmetic operators and expressions, if statements, for-loops, functions, and predefined classes (object-based programming).</td>
<td>Same as above.</td>
</tr>
<tr>
<td>3. Develop elementary musical compositions and engage in live performance.</td>
<td>Same as above.</td>
</tr>
<tr>
<td>4. Understand events and graphical user interfaces and use them to develop simple computer-based instruments for electroacoustic music.</td>
<td>Same as above.</td>
</tr>
</tbody>
</table>
How does this course align with the student learning outcomes articulated for the major, program, or general education? What program-level outcome or outcomes does it support? Is the content or skill introduced, reinforced, or demonstrated in this course?

The CITA major synthesizes art and computer programming. This course combines music transcription, composition, and live performance with fundamentals of computer programming (sequence, selection, iteration).

I. PROGRAM CHANGES. Will this course be added to the existing degree requirements or list of approved electives of a major, minor, or concentration? ☐ yes ☒ no

If yes, please attach a Change Minor and/or Change Major/Program Form as appropriate.

J. CHECKLIST.

☒ I have completed all relevant parts of the form.

☒ I have attached a cover letter that describes my request and lists all the documents I am submitting.

☐ (For new courses only) I have attached a syllabus.

☐ (For courses used in any way by other departments, including cross-listing) I have attached an acknowledgement from the relevant department.

☐ (For courses intended to fulfill a Gen Ed requirement) I have submitted the proposal to the Gen Ed committee.

☒ I have submitted one Signature Form that lists all of the different forms I am submitting.
FACULTY CURRICULUM COMMITTEE
CHANGE/DELETE PROGRAM FORM

Instructions:
- Please fill out all of the portions of the form that are specified in section B. You must do this before your request can move forward!
- Remember that your changes will not be implemented until the next catalog year at the earliest.
- If you have questions, please start by checking the detailed instructions on the website.
- Please feel free to contact the committee chair with any remaining questions you might have.

A. CONTACT INFORMATION.

Name: Bill Manaris
Phone: x38159
Email: manarish@cofc.edu
School: SSM
Department or Program: Computing in the Arts (CITA)

Name and Acronym of Major: CITA

B. CATEGORY OF REVIEW. Please check all that apply, then fill out the specified parts of the form.

☐ Change Request (fill out all sections)
  ☑ Add an existing course to requirements or electives
  ☑ Add a new course to requirements or electives (attach completed course form for each)
  ☐ Delete courses from requirements or electives
  ☐ Add or modify concentration
  ☐ Add or modify cognate

*Note: Only concentrations and cognates requiring 18 or more credit hours will be tracked in Banner and Degree Works and noted on the transcript.

☐ Terminate Program (fill out E, G, H, and I)
  ☐ Terminate degree
  ☐ Terminate major
  ☐ Terminate concentration
  ☐ Terminate cognate

C. GENERAL INFORMATION

Number of Current Credit Hours (for existing program): 52+
Number of Proposed Credit Hours (for changed program): 55+
Catalog Year in which changes will take effect: FALL 2016

D. CURRICULUM. Please list every change you are making below AND attach the current Program of Study Worksheet for this major (http://registrar.cofc.edu/program-of-study-resources/program-of-study-worksheets/index.php) with changes marked in RED. Additions should show where the course will be inserted, deletions should be noted by crossing out the course, and moves indicated with arrows. Distinguish between required and elective courses, and note any prerequisites, co-requisites, sequencing, or other restrictions. Provide the catalog description and course list exactly as they should appear in the catalog. For each new course, submit the Curriculum Committee’s Course Form and a sample syllabus.

E. RATIONALE AND EXPLANATION. Please provide a narrative addressing the request you are making and why you are making it.

This form was last updated on 6/6/2013 and replaces all others.
1) Add new concentration, “Digital Media”, to prepare students to synthesize computing with visual art, communication and entrepreneurship. See attached.

Change Rationale:

This concentration addresses student demand (e.g., animation) and industry trends. Also, it may serve as a pathway into Clemson’s Digital Production Arts MFA (http://www.cs.clemson.edu/vcadmin/dpa/).

2) Add new course, CITA/CSCI 140 “Graphic Design and Digital Media”, to serve as an introduction to computer programming related to image generation and applying graphic design principles to digital media.

Change Rationale:

This course is better suited to serve as the introductory synthesis course leading into the above, new “Digital Media” concentration.

3) Add CSCI 380, "User Interface Development", and CSCI 392, "Seminar on Computing and Society", in the list of required CSCI courses.

Change Rationale:

This will allow us to seek national ABET accreditation for the CITA major.

4) Add MUSC 349, "Jazz Arranging", to list of Music electives in the Music concentration.

Change Rationale:

This course is often requested as an elective by Music concentration CITA students. Music department concurs.

F. STUDENT LEARNING OUTCOMES AND ASSESSMENT.

<table>
<thead>
<tr>
<th>Student Learning Outcomes</th>
<th>Assessment Method and Performance Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>What will students know and be able to do when they complete the major or program?</td>
<td>How will each outcome be measured? Who will be assessed, when, and how often? How well should students be able to do on the assessment?</td>
</tr>
<tr>
<td>1. Model processes, particularly those in arts applications.</td>
<td>Students will develop several software projects throughout the curriculum incorporating modeling of processes. Students should be able to earn a C- or better on all CITA synthesis courses (CITA 120/140/180, CITA 280, CITA 395, CITA 495).</td>
</tr>
<tr>
<td>2. Investigate, visualize, speculate, and invent using computing and computational thinking.</td>
<td>Same as above.</td>
</tr>
</tbody>
</table>
3. Synthesize innovative software applications and media combining music, images, sounds, lighting and stage design, and other digital artifacts. | Same as above.

4. |  

Additional Outcomes or Comments:


G. IMPACT ON EXISTING PROGRAMS AND COURSES. Please describe the impact of this request on other programs and courses. If you are deleting a program, please describe the effect on all programs that will be impacted; if you are adding or changing a program, please explain any overlap with existing programs at the College.

None.

H. COSTS ASSOCIATED WITH THE REQUESTED ACTION. List all of the new costs or cost savings (including new faculty/staff requests, library, or equipment) associated with your request.

None.

I. CHECKLIST

☐ I have completed all relevant parts of the form.

☐ I have attached a cover letter that describes my request and lists all the documents I am submitting.

☐ I have attached a Course Form for each newly-created or modified course.

☐ (For proposals that affect other departments in any way) I have attached an acknowledgement from the relevant department.

This form was last updated on 6/6/2013 and replaces all others.
☑ I have provided the complete curriculum for the program, concentration, emphasis, etc., including the description and course list, exactly as it should appear in the catalog.

☑ I have submitted one Signature Form that lists all of the different forms I am submitting.
Computing in the Arts Major
Requirements

Degree: Bachelor of Arts

Credit Hours: 55+  

"PR" indicates a pre-requisite. "CO" indicates a co-requisite.

Courses within this major may also satisfy general education requirements.

Please consult http://registrar.cofc.edu/general-edu for more information.

Required Courses

Choose one of the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>PR:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITA 120</td>
<td>Animation and Virtual Worlds (cross-listed with CSCI 120) (3)</td>
<td>PR: None</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CITA 140</td>
<td>Graphic Design and Digital Media (cross-listed with CSCI 140) (3)</td>
<td>PR: None</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CITA 180</td>
<td>Computers, Music, and Art (cross-listed with CSCI 180) (3)</td>
<td>PR: None</td>
<td></td>
</tr>
</tbody>
</table>

Required CITA Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>PR:</th>
</tr>
</thead>
</table>
| CITA 280 | Game Programming (cross-listed with CSCI 280) (3) | PR: CSCI/CITA 120  
or CSCI/CITA 180, and CSCI 220 with a grade of C- or better,  
or instructor permission |
| CITA 395 | Seminar (3)                                |         | CSCI 280, CSCI 221 with a grade of C- or better,  
9 hours in an art concentration |
| CITA 495 | Capstone Practicum (3)                     |         | CITA 395, and CSCI 230 with a grade of C- or better |

Changes are enclosed in boxes.
Required CSCI Courses

CSCI 220  Computer Programming I (3) PR: CSCI 120 or CSCI 180 or CSCI 280 or MATH 111 or higher; CO: CSCI 220L

CSCI 220L  Computer Programming I Lab (1) CO: CSCI 220 with a grade of C- or better

CSCI 221  Computer Programming II (3) PR: CSCI 220 with a grade of C- or better, CSCI 220L; CO or PR: MATH 207

CSCI 230  Data Structure and Algorithms (3) PR: CSCI 221 with a grade of C- or better, MATH 207

CSCI 380  User Interface Development (3) PR: CSCI 221 with a grade of C- or better, MATH 207, or instructor permission

CSCI 392  Seminar on Computing and Society (3) PR: CSCI 221 with a grade of C- or better

CSCI Elective Requirement: Select 3 credit hours from the following:

CSCI 250  Introduction to Computer Organization and Assembly Language Programming (3) PR: CSCI 220 with a grade of C- or better and CSCI 220L; CO or PR: MATH 207

Any CSCI 300-level course or above

Math Requirement

MATH 105  Calculus for Business and Social Sciences (3) PR: MATH 101 or placement

OR

MATH 111  Pre-Calculus Mathematics (4) PR: C- or better in MATH 101 or placement

AND

MATH 207  Discrete Structures I (3) PR: MATH 105, MATH 111, or MATH 120

Select a concentration area from the following (Art, Digital Media, Music, or Theatre):

Art Concentration

ARTS 119  Drawing I (3) PR: None

ARTH 287  New Media in Contemporary Art (3) PR: None
Elective Requirement: Select 12 credit hours from the following:

**ARTH 101** History of Art: Prehistoric Through Medieval (3) *PR: None*

**ARTH 102** History of Art: Renaissance to Modern (3) *PR: None*

**ARTH 104** Themes in the History of Art (3) *PR: None*

**ARTH 293** Introduction to Film Art (3) *PR: None*

**ARTS 215** Photography I (3) *PR: ARTS 119*

**ARTS 216** Painting I (3) *PR: ARTS 119*

**ARTS 218** Printmaking I (3) *PR: ARTS 119 or instructor permission*

**ARTS 220** Sculpture I (3) *PR: None*

**ARTH 306** Studies in Modern, Contemporary, and Film Arts (3) *PR: instructor permission or 6 hours of ARTH or ARTH 299*

**ARTH 391** Contemporary Art (3) *PR: instructor permission or 6 hours of ARTH or ARTH 299*

**ARTH 392** The Camera and Visual Perception (3) *PR: instructor permission or 6 hours of ARTH or ARTH 299*

**ARTH 490** Independent Study in Art History (3) *PR: Junior or senior standing, declared ARTH major, overall GPA of at least 3.00 and ARTH major GPA of at least 3.30*

**ARTS 315** Photography II (3) *PR: ARTS 215*

**ARTS 319** Drawing II (3) *PR: ARTS 119*

**ARTS 322** Painting II (3) *PR: ARTS 216*

**ARTS 323** Printmaking II (3) *PR: ARTS 218 or instructor permission*

**ARTS 324** Sculpture II (3) *PR: ARTS 119, ARTS 220, or instructor permission*

**ARTS 326** Drawing III (3) *PR: ARTS 319 or instructor permission*

**ARTS 327** Advanced Photographic Techniques (3) *PR: ARTS 215, ARTS 315, or instructor permission*

**ARTS 328** Painting III (3) *PR: ARTS 322*
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS 330</td>
<td>Sculpture III (3) <strong>PR:</strong> ARTS 324 or instructor permission</td>
<td></td>
</tr>
<tr>
<td>ARTS 331</td>
<td>Painting IV (3) <strong>PR:</strong> ARTS 328</td>
<td></td>
</tr>
<tr>
<td>ARTS 332</td>
<td>Advanced Printmaking (3) <strong>PR:</strong> ARTS 323 or ARTS 329 or instructor permission</td>
<td></td>
</tr>
<tr>
<td>ARTS 333</td>
<td>Sculpture IV (3) <strong>PR:</strong> ARTS 330 or instructor permission</td>
<td></td>
</tr>
<tr>
<td>ARTS 334</td>
<td>Advanced Photography IV (3) <strong>PR:</strong> ARTS 215, ARTS 315,</td>
<td>or instructor permission</td>
</tr>
<tr>
<td>ARTS 335</td>
<td>Selected Topics in Advanced Studio Practice (3) <strong>PR:</strong> Vary according to topic</td>
<td></td>
</tr>
<tr>
<td>ARTS 339</td>
<td>Drawing IV (3) <strong>PR:</strong> ARTS 326 or instructor permission</td>
<td></td>
</tr>
<tr>
<td>ARTS 430</td>
<td>Independent Study in Studio Art (3) <strong>PR:</strong> Department chair approval</td>
<td></td>
</tr>
</tbody>
</table>

### Digital Media Concentration

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCI 115</td>
<td>Website Design (3) <strong>PR:</strong> None</td>
<td></td>
</tr>
<tr>
<td>ARTH 287</td>
<td>New Media in Contemporary Art (3)</td>
<td><strong>PR:</strong> None</td>
</tr>
</tbody>
</table>

### Elective Requirement: Select 12 credit hours from the following:

Select two from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMM 214</td>
<td>Media in the Digital Age (4) + COMM 214D Media in the Digital Age Discussion (0) <strong>PR:</strong> None</td>
<td></td>
</tr>
<tr>
<td>COMM 310</td>
<td>Message Design and Influence (3) <strong>PR:</strong> COMM 104 or 280; COMM 214 or COMM 215 with a C- or better and <strong>PR</strong> or <strong>CO:</strong> COMM 281; CSCI 112 or higher with a C- or better</td>
<td></td>
</tr>
<tr>
<td>COMM 314</td>
<td>Media History (3) <strong>PR:</strong> COMM 104 or 280; COMM 214 or COMM 215 with a C- or better and <strong>PR</strong> or <strong>CO:</strong> COMM 281; CSCI 112 or higher with a C- or better</td>
<td></td>
</tr>
<tr>
<td>COMM 336</td>
<td>Addressing Problems in Context (3) <strong>PR:</strong> COMM 104 or COMM 280; COMM 214 or COMM 215 with a C- or better</td>
<td></td>
</tr>
</tbody>
</table>

Select two from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTH 293</td>
<td>Intro to Film Art (3) <strong>PR:</strong> None</td>
<td></td>
</tr>
</tbody>
</table>


**Music Concentration**

**MUSC 146**  
Fundamentals of Music (3) **PR:** None

**MUSC 246**  
Music Theory I (3) **PR:** Instructor permission

**Elective Requirements: Select 12 credit hours from the following:**

**MUSC 247**  
Music Theory II (3) **PR:** MUSC 246, MUSC 238, or instructor permission

**MUSC 345**  
Jazz Theory (3) **PR:** None

**MUSC 349**  
Jazz Arranging (3) **PR:** MUSC 345 or permission of instructor

**MUSC 351**  
Seminar in Music Composition (3) **PR:** MUSC 237

**MUSC 352**  
Seminar in Music Composition II (3) **PR:** MUSC 351

**MUSC 381**  
Music History I (3) **PR:** MUSC 247 or instructor permission

**MUSC 382**  
Music History II (3) **PR:** MUSC 381 or instructor permission

**MUSC 399**  
Tutorial (3, Repeatable up to 12) **PR:** Junior standing, tutor permission, department chair permission

**MUSC 460**  
Senior Independent Study in Music Theory or Composition (3 or 6)  
**PR:** MUSC 352 or instructor permission; overall GPA of at least 2.75, department permission

**MUSC 481**  
Music Theory III (3) **PR:** MUSC 247

**MUSC 482**  
Music Theory IV (3) **PR:** MUSC 481
MUSC 499     Bachelor's Essay (6) *PR: department permission*

**Theatre Concentration**

THTR 276     Script Analysis (3) *PR: None*
THTR 277     Acting I: Basic Approach (3) *PR: None*
THTR 355     Playwriting I (3) *PR or CO: THTR 276*

**Select one course from the following:**

THTR 240     Costume I: Introductory Studies (3) *PR: None*
THTR 209     Stagecraft I (3) *PR: None*

**Select one course from the following:**

THTR 310     Theatre History and Literature to 1750 (3) *PR: Junior or senior standing*
THTR 311     Theatre History and Literature after 1750 (3) *PR: Junior or senior standing*

**Select one course from the following:**

THTR 207     Rendering for Theatre (3) *PR: THTR 209 or THTR 240*
THTR 221     Creative Drama I (3) *PR: None*
THTR 340     Costuming II: Pattern Drafting and Advanced Sewing Techniques (3) *PR: THTR 240*
THTR 350     Selected Topics in Communication Production (3) *PR: None*
THTR 455     Playwriting II (3) *PR: THTR 355*
Computing in the Arts Major with Concentration in Digital Media Requirements
Catalog Year: 2016-17
Degree: Bachelor of Arts
Credit Hours: 55+

"PR" indicates a prerequisite. "CO" indicates a co-requisite. Courses within this major may also satisfy general education requirements.
Please consult http://registrar.cofc.edu/general-edu for more information.

Required Courses (3 hours)
Choose one of the following:
☐ CITA 120 Animation and Virtual Worlds (cross-listed with CSCI 120) (3) PR: None
OR
☐ CITA 140 Graphic Design and Digital Media (3) PR: None
OR
☐ CITA 180 Computers, Music, and Art (cross-listed with CSCI 180) (3) PR: None

Required CITA Courses (9 hours)
☐ CITA 260 Game Programming (cross-listed with CSCI 260) (3) PR: CSCI/CITA 120 or CSCI/CITA 140 or CSCI/CITA 180, and C- or better in CSCI 220, or instructor permission
☐ CITA 395 CITA Seminar (3) PR: CSCI/CITA 260, C- or better in CSCI 221, 9 credit hours in an art concentration
☐ CITA 405 CITA Seminar (3) PR: CITA 395, C- or better in CSCI 230

Required CSCI Courses (15 hours)
☐ CSCI 220 Computer Programming I (3) PR: CSCI 120 or CSCI 140 or CITA 180 or MATH 111 or higher or department permission; CO: CSCI 220L
☐ CSCI 220L Computer Programming Lab I (1) CO: CSCI 220
☐ CSCI 221 Computer Programming II (3) PR: CSCI 220 with a C- or better, CSCI 220L with a C- or better; CO or PR: MATH 207
☐ CSCI 230 Data Structures and Algorithms (3) PR: CSCI 221 with a C- or better
☐ CSCI 380 User Interface Development (3) PR: CSCI 221 with a grade of C- or better
☐ CSCI 392 Seminar on Computing and Society (3) PR: CSCI 221 with a grade of C- or better

CSCI Elective Requirement: Select 3 credit hours from the following:

☐

CSCI 250 Introduction to Computer Organization and Assembly Language Programming (3) PR: CSCI 220 with a C- or better, CSCI 220L with a C or better; CO or PR: MATH 207

Any CSCI 300-level course or above

Math Requirement (6 hours)
☐ MATH 105 Calculus for Business and Social Sciences (3) PR: MATH 101 or placement
OR
☐ MATH 111 Pre-Calculus Mathematics (4) PR: Placement or C- or better in MATH 101

AND

☐ MATH 207 Discrete Structures I (3) PR: MATH 105, MATH 111, or MATH 120

Digital Media Concentration (18 hours)
☐ CSCI 115 Website Design (3) PR: None

☐ ARTH 287 New Media in Contemporary Art (3) PR: None

Elective Requirement: Select 12 credit hours from the following:
Select 6 credit hours from the following:

☐ ________  ☐ ________

COMM 214 Media in the Digital Age (4) + COMM 214D Media in the Digital Age Discussion (0) PR: None

COMM 215 Communication, Identity and Community (4) PR: None

COMM 280 Introduction to Communication Messages (3) PR: None. COMM 280 and COMM 281 is a year-long course.

COMM 281 Introduction to Communication Messages (3) PR: COMM 280. COMM 280 and COMM 281 is a year-long course. Students will be automatically enrolled in the second section of the course during the registration period. The course will be scheduled on the same day and times with the same professor for both courses. Students who do not receive a grade of C- or better in the first half of the course will be dropped from the continuing section after final grades are posted.

Select 6 credit hours from the following:

☐ ________  ☐ ________

CSCI 215 Website Programming (3) PR: None

CSCI 315 Service-Side Web Programming (3) PR: CSCI 215, CSCI 221. Note: May only count once. May not fulfill dual requirements.

CSCI 480 Principles of Computer Graphics (3) PR: CSCI 230 with a C- or better, MATH 105 or MATH 120. Note: May only count once. May not fulfill dual requirements.