CURRICULUM COMMITTEE CHECKLIST

NAME OF PROGRAM: GIS Certificate

Step 1  Reviewed change at division meeting.
     YES  NO  
     □    X

Step 2  Presented as informational item at Division Chair Meeting(s)
        and checked if it affects other departments. Like programs must
        meet with Division Chairs on all affected campuses (North
        Mankato and Faribault).
        Division Chair's signature
        □    X

Step 3  Instructional Dean reviewed and indicated need for Curriculum
        Committee approval.
        Instructional Dean's signature
        □    X

Step 4  Advisory Committee approval indicated in meeting minutes if
        necessary. Minutes provided to Curriculum Committee.
        Votes
        □    X

Step 5  Curriculum Committee made recommendations (changes,
        additional approvals, etc.). If no, skip to Step 7.
        □    X

Step 6  Committee's recommendations completed. (Skip if not
        applicable.)
        □    X

Step 7  Curriculum Committee approved.
        Curriculum Committee Chair's signature
        □    X

Step 8  Minutes and necessary materials provided to VP of Academic
        Affairs.
        □    X

Step 9  Vice President of Academic Affairs approved.
        □    X

Vice President of Academic Affairs' signature
                                               12/6/13

Step 10 New Course Maximum Enrollment to Shared Governance.  YES
        □    X

Step 11 President's approval for all changes requiring MnSCU approval.
        □    X

President's signature
# New Program or Program Change Proposal Form

<table>
<thead>
<tr>
<th>Date of Proposal:</th>
<th>10-25-13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author:</td>
<td>Willy Mekeel</td>
</tr>
<tr>
<td>Proposal Type:</td>
<td>New Program</td>
</tr>
<tr>
<td>Contact for the Program:</td>
<td>Willy Mekeel</td>
</tr>
<tr>
<td>Program Name:</td>
<td>Geographic Information Systems Cert.</td>
</tr>
<tr>
<td>Division in Which Program is Currently or Will Be Held:</td>
<td>Technical Careers</td>
</tr>
<tr>
<td>Proposal Start (Term/Year):</td>
<td>Fall 2014</td>
</tr>
<tr>
<td>Program Description:</td>
<td>The Geographical Information System certificate offered through the Civil Engineering Technology program focuses on extended learning of GIS applications within the civil engineering environment. Students in this certificate program will acquire skills required by hiring agencies, which includes collection, management and analysis of spatial data, creation of maps, as well as GIS data development and management for web applications.</td>
</tr>
<tr>
<td>Degrees Offered:</td>
<td>AS</td>
</tr>
<tr>
<td>Program Location:</td>
<td>Faribault Campus</td>
</tr>
<tr>
<td>Prerequisites:</td>
<td>None</td>
</tr>
<tr>
<td>Number of Credits:</td>
<td>16</td>
</tr>
</tbody>
</table>

If There is a Program Change, Summarize Changes to the Program:

**Introduction to Remote Sensing and an Internship will now be offered. Also, Capstone and FYE will be electives for the certificate.**

Rationale for Program Development or Program Change:

**The redesigned program will be available to a broader group of students through increased flexibility in course offerings.**

What Impact Will this New Program or Change Have on Other Programs or Areas?

**None**

Are There Articulations With Other Colleges? List College(s):

**None**

- Attach Program Design to this Form. Below are Some Recommended Items:
  a. List of program requirements (i.e.: what the catalog page shows for each program).
  b. Cross walk from previous program curriculum to new (how students already started in the old program can finish after this new program begins).
  c. All required course numbers and titles.
  d. Additional supporting information, such as minutes documenting recommendation for proposal.
# South Central College

**Civil Engineering Technology**

**Geographic Information Systems Certificate (16 Credits)**

## New

<table>
<thead>
<tr>
<th>COURSE #</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS 2840</td>
<td>Introduction to GIS</td>
<td>4</td>
</tr>
<tr>
<td>GIS 2841</td>
<td>Intermediate GIS</td>
<td>4</td>
</tr>
<tr>
<td>GIS 2842</td>
<td>Field Mapping with GPS</td>
<td>4</td>
</tr>
<tr>
<td>GIS 2845</td>
<td>Introduction to Remote Sensing</td>
<td>4</td>
</tr>
</tbody>
</table>

**Core Credits – 12 Credits**

**Elective Credits – 4 credits from the following**

<table>
<thead>
<tr>
<th>COURSE #</th>
<th>COURSE TITLE</th>
<th>CREDITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS 2843</td>
<td>GIS Practicum</td>
<td>2-4</td>
</tr>
<tr>
<td>GIS 2844</td>
<td>GIS Internship</td>
<td>2-4</td>
</tr>
<tr>
<td>CAP 250</td>
<td>Capstone</td>
<td>1</td>
</tr>
<tr>
<td>FYE 100</td>
<td>First Year Experience</td>
<td>1</td>
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</tbody>
</table>

## Old

<table>
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<th>COURSE TITLE</th>
<th>CREDITS</th>
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</tr>
<tr>
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<td>Intermediate GIS</td>
<td>4</td>
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<td>GIS 2843</td>
<td>GIS Practicum</td>
<td>4</td>
</tr>
</tbody>
</table>
# New Course or Course Change Proposal Form

**Date of Proposal:** Nov. 25, 2013  
**Author:** Willy Mekeel  
**Proposal Type:** (*) New Course  
**Modify Course**  
**Delete Course ☑**  
**Contact for the Course:** Willy Mekeel  
**Course Designator, Number and Title** (i.e.: ACCT 1800, Business Law): **CTLS 2840, Introduction to Geographic Information Systems (GIS)**  
**Number of Credits:** 4  
**Prerequisites:** None

**Course Description:** This course covers the theory and use of computer software for the collection, analysis, and communication of geographic information. This course will use ArcGIS software, which was developed by Environmental Systems Research Institute, Inc. (ESRI) as a tool to create, manage and manipulate spatial data within a GIS.

**Grading Method:** Grade ☑  
**Pass/Fail**

**Scheduling:**  
Fall  
Spring  
Summer  
Alternate Years  
Variable  
On Demand

**Instructional Type:**  
Lecture  
Lab  
Lecture/Lab ☑  
Internship  
Seminar

(*)Class Maximum: (For New Courses Only) / All Unlimited faculty members of a program or discipline must sign.

<table>
<thead>
<tr>
<th>Faculty Name</th>
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</table>

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<tr>
<th>Dean's Name</th>
<th>Dean's Signature</th>
<th>Date</th>
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</table>

If there is not enough space provided, please use the back of this form for additional signatures or click on a row with the right button of the mouse, select insert and then select insert rows below to add rows to the table.

| Is this Course Proposed as a Liberal Arts Course: | Yes ☑ | No ☑ |

If Yes, Which MnTC Area/Areas Will it Fulfill (http://www.mntransfer.org)?  
Is This Course a Requirement/Elective for a Specific Program or Programs?  
Yes ☑  
No

If Yes, Which Program(s)? **Civil Engineering Technology AAS & Geographic Information Systems Certificate**

Describe What is Changing/Being Added, and the Rationale: Course prefix was changed from CTLS to GIS, so the old course with the CTLS designator needs to be deleted.

What Impact Will This New Course or Change Have on Other Programs or Areas? **Course Program Plans will need to reflect the GIS prefix.**

> Attach Common Course Outline to this Form.
Appendix B

New Course or Course Change Proposal Form

Date of Proposal: **10-25-13**

Author: Willy Mekeel

Proposal Type: | (*) New Course | Modify Course | Delete Course

Contact for the Course: Willy Mekeel

Course Designator, Number and Title (i.e.: ACCT 1800, Business Law): **CTLS 2840 Introduction to Geographic Information Systems (GIS)**

Number of Credits: **4**

Prerequisites: **None**

Course Description: This course covers the theory and use of computer software for the collection, analysis, and communication of geographic information. This course will use ArcGIS software, which was developed by Environmental Systems Research Institute, Inc. (ESRI) as a tool to create, manage and manipulate spatial data within a GIS.

Grading Method: | Grade | Pass/Fail

Scheduling: | Fall | Spring | Summer | Alternate Years | Variable | On Demand

Instructional Type: | Lecture | Lab | Lecture/Lab | Internship | Seminar

(*) Class Maximum: (For New Courses Only) / All Unlimited faculty members of a program or discipline must sign.

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Is this Course Proposed as a Liberal Arts Course: | Yes | No

If Yes, Which MnTC Area/Areas Will it Fulfill ([http://www.mntransfer.org](http://www.mntransfer.org))?

Is This Course a Requirement/Elective for a Specific Program or Programs?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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If Yes, Which Program(s)? Civil Engineering Technology and GIS Cert.

Describe What is Changing/Being Added, and the Rationale:

Course identifier CTLS 2840 is being changed to GIS 2840. This identifier change will increase the chances of articulation agreements with other institutions. Course competencies and objectives have been rewritten with broader software version language (i.e. 'the latest version of ArcGIS' rather than 'ArcGIS 9.3')

What Impact Will This New Course or Change Have on Other Programs or Areas?

Civil Engineering AAS program guides will need to change; faculty in that program have no objections to the change.
Appendix B

New Course or Course Change Proposal Form

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**Proposal Type:**  (* )New Course  Modify Course  Delete Course

**Contact for the Course:** Willy Mekeel

**Course Designator, Number and Title (i.e.: ACCT 1800, Business Law):** GIS 2843 GIS Practicum

**Number of Credits:** 2-4

**Prerequisites:** GIS 2841 Intermediate GIS or Consent of Instructor

**Course Description:** This course expands upon the knowledge students' gained in previous geospatial technology courses and serves to hone their GIS skills. Students will have the opportunity to design, develop, and implement a GIS-based solution in response to a defined problem and present their results.

**Grading Method:** Grade  Pass/Fail

<table>
<thead>
<tr>
<th>Scheduling:</th>
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<th>Spring</th>
<th>Summer</th>
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**Is this Course Proposed as a Liberal Arts Course:** Yes  No

**If Yes, Which MnTC Area/Areas Will it Fulfill (http://www.mntransfer.org)?**

**Is This Course a Requirement/Elective for a Specific Program or Programs?** Yes  No

**If Yes, Which Program(s)? GIS Cert.**

**Describe What is Changing/Being Added, and the Rationale:**

*The course description, competencies, and learning objectives have been rewritten to reflect a capstone course rather than an internship. The credits/hours have been adjusted to variable to fit the new cert design.*

**What Impact Will This New Course or Change Have on Other Programs or Areas?**

None

- Attach Common Course Outline to this Form.
Appendix B

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<td>Willy Mekeel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course Designator, Number and Title (i.e.: ACCT 1800, Business Law):</td>
<td>GIS 2844 GIS Internship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Credits:</td>
<td>2-4</td>
<td></td>
<td></td>
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Prerequisites: GIS 2841 Intermediate GIS or Consent of the Instructor

Course Description: This course is one of the capstones of the GIS certificate program, where upon the students are provided a real world working atmosphere with area partners, such as state, county, and local governments, and consulting agencies. Students in this course work on assignments as requested by the governing agency and will be directed by the course instructor.

<table>
<thead>
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<th>Grading Method:</th>
<th>Grade</th>
<th>Pass/Fail</th>
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<tbody>
<tr>
<td>Scheduling:</td>
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<tbody>
<tr>
<td>Willy Mekeel</td>
<td>Willy Mekeel</td>
<td>24</td>
<td>10-25-13</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Dean's Name</th>
<th>Dean's Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brian D. Fors</td>
<td>Fors</td>
<td>10-25-13</td>
</tr>
</tbody>
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Is this Course Proposed as a Liberal Arts Course: Yes No

If Yes, Which MnTC Area/Areas Will it Fulfill (http://www.mntransfer.org)?

Is This Course a Requirement/Elective for a Specific Program or Programs? Yes No

If Yes, Which Program(s)? GIS Cert. Only

Describe What is Changing/Being Added, and the Rationale:

This new course will provide training in another important aspect of GIS

What Impact Will This New Course or Change Have on Other Programs or Areas? None

- Attach Common Course Outline to this Form.
Appendix B

New Course or Course Change Proposal Form

Date of Proposal: 10-25-13

Author: Willy Mekeel

Proposal Type: (*) New Course  Modify Course  Delete Course

Contact for the Course: Willy Mekeel

Course Designator, Number and Title (i.e.: ACCT 1800, Business Law): GIS 2845 Introduction to Remote Sensing

Number of Credits: 4

Prerequisites: None

Course Description: This course will introduce students to the basic concepts and fundamentals of remote sensing. Digital image processing techniques and aerial photo interpretation will be reviewed and applied to practical problems through the use of various lab activities.

Grading Method: Grade  Pass/Fail

<table>
<thead>
<tr>
<th>Scheduling</th>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
<th>Alternate Years</th>
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Faculty Name  Faculty Signature  Class Max  Date

Willy Mekeel  [Signature]  24  10-15-13

Dean's Name  Dean's Signature  Date

Brian D. Fors  [Signature]  24  11-18-13

If there is not enough space provided, please use the back of this form for additional signatures or click on a row with the right button of the mouse, select Insert and then select Insert rows below to add rows to the table.

Is this Course Proposed as a Liberal Arts Course: Yes  No

If Yes, Which MnTC Area/Areas Will it Fulfill (http://www.mntransfer.org)?

Is This Course a Requirement/Elective for a Specific Program or Programs? Yes  No

If Yes, Which Program(s): GIS Cert. Only

Describe What is Changing/Being Added, and the Rationale:

This new course will provide training in another important aspect of GIS

What Impact Will This New Course or Change Have on Other Programs or Areas? None

➢ Attach Common Course Outline to this Form.