

**Program Information Report**

CTADS

**School of Business and Entrepreneurial Studies**

Learn the fundamentals you will need to become a business leader or entrepreneur. These programs help you develop entry-level skills in various aspects of business. Whether your goal is to make your place in an existing industry or branch out on your own, these programs can provide the foundation for success.

Washtenaw Community College offers programs at several levels for students who want to begin new careers, or advance in their existing careers. The first level is the certificate, which can vary from nine to thirty-six credits, depending on the field. Certificates generally prepare students for entry-level jobs.

After completing a certificate, students can progress to the next level, the advanced certificate. The credit hours required for these programs also vary. This type of certificate provides a more specialized level of skill development, and often allows students to upgrade their positions at their places of employment.

The next level, an Associate in Applied Science, is available for some programs. For some career fields, it is possible to earn a certificate, an advanced certificate, and an Associate in Applied Science degree in the same field. In these cases, the credit hours from the certificate and advanced certificate can be applied to the credit hours needed for the Associate in Applied Science degree.

Alternatively, students can earn an AAS in Occupational Studies by completing a certificate, advanced certificate (if one exists) and General Education requirements.

**Business**

Choose one or more areas in the field of business as you prepare for your future.

**Program Information Report****Applied Data Science (CTADS)  
Certificate****Program Effective Term: Fall 2015**

The Applied Data Science certificate is intended for students who want to pursue a career in data analytics ("big data") or enhance their current business skills. Students learn how to capture, manipulate, and analyze structured data-the massive volume of numeric values that can be easily stored and sorted. They learn how to transform data into information to enable faster and more intelligent decision-making.

**Continuing Eligibility Requirements:**

Minimum grade of "C" in major/area courses.

Minimum Requirements		
BMG 265	Business Statistics	3
BMG 275	Business and Supply Chain Analytics	4
BMG 285 or	Applied Data Analytics	4
CIS 285	Applied Data Analytics	4
CIS 110	Introduction to Computer Information Systems	3
CIS 282	Database Principles and Application	3
<b>Minimum Credits Required for the Program:</b>		<b>17</b>

**Program Information Report****School of Information Technology**

The School of Information Technology gathers the diverse areas that make up the computer technology of today. From basic programming languages to systems development through networking, these programs provide the core of information technology. Develop skills in computer networking or programming in the growing field of applied information technology.

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After completing a certificate, students can progress to the next level, the advanced certificate. The credit hours required for these programs also vary. This type of certificate provides a more specialized level of skill development, and often allows students to upgrade their positions at their places of employment.

The next level, an Associate in Applied Science, is available for some programs. For some career fields, it is possible to earn a certificate, an advanced certificate, and an Associate in Applied Science degree in the same field. In these cases, the credit hours from the certificate and advanced certificate can be applied to the credit hours needed for the Associate in Applied Science degree.

Alternatively, students can earn an AAS in Occupational Studies by completing a certificate, an advanced certificate (if it exists) and General Education requirements.

**Programming**

Learn the foundation of computer programming or specialize in a programming language through these programs.

**Program Information Report**

**Applied Data Science (CTADS)**

**Certificate**

**Program Effective Term: Fall 2015**

The Applied Data Science certificate is intended for students who want to pursue a career in data analytics ("big data") or enhance their current business skills. Students learn how to capture, manipulate, and analyze structured data-the massive volume of numeric values that can be easily stored and sorted. They learn how to transform data into information to enable faster and more intelligent decision-making.

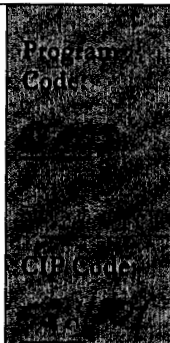
**Continuing Eligibility Requirements:**

Minimum grade of "C" in major/area courses.

BMG 265	Business Statistics	3
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CIS 285	Applied Data Analytics	3
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<b>Minimum Credits Required for the Program:</b>		<b>17</b>

**PROGRAM PROPOSAL FORM**

- Preliminary Approval** – Check here when using this form for preliminary approval of a program proposal, and respond to the items in general terms.
- Final Approval** – Check here when completing this form after the Vice President for Instruction has given preliminary approval to a program proposal. For final approval, complete information must be provided for each item.

<p><b>Program Name:</b></p> <p><b>Division and Department:</b></p> <p><b>Type of Award:</b></p> <p><b>Effective Term/Year:</b></p> <p><b>Initiator:</b></p>	<p>Applied Data Science Certificate</p> <p>Business and Computer Technologies (BMG/CIS)</p> <p><input type="checkbox"/> AA   <input type="checkbox"/> AS   <input type="checkbox"/> AAS  <input checked="" type="checkbox"/> Cert.   <input type="checkbox"/> Adv. Cert.   <input type="checkbox"/> Post-Assoc. Cert.   <input type="checkbox"/> Cert. of Comp.</p> <p>Fall 2015</p> <p>Cheryl Byrne (BMG), Mike Galea (CIS)</p>		
<p><b>Program Features</b>          Program's purpose and its goals.          Criteria for entry into the program, along with projected enrollment figures.          Connection to other WCC programs, as well as accrediting agencies or professional organizations.          Special features of the program.</p>	<p>The purpose of this program is to provide foundational skills in analytics of structured data.</p> <p>In addition to the standard college-level reading and writing requirements, the student is expected to have some basic business skills and basic knowledge of Microsoft Office. Our conservative estimate is that 15 students will be enrolled by the end of year 1 and 30 by the end of year 2. An effective marketing program, however, will increase this estimate.</p> <p>While there is no direct connection to other WCC programs, this will be an attractive program for business and computer science students.</p>		
<p><b>Need</b>          Need for the program with evidence to support the stated need.</p>	<p>"Big Data refers to the immense amount of data collected and analyzed from every imaginable device in our modern culture, and has fueled one of the most hyper-growth niches of employment in a century" (<a href="http://bigdatajobsindex.com/">http://bigdatajobsindex.com/</a>). In fact, according to Jack Phillips, CEO of the International Institute for Analytics, "There's no question that the number one requirement [for] enterprises that are serious about gaining a competitive advantage using data and analytics is going to be the talent to run that program" (<a href="http://www.computerworld.com/article/2492676/big-data/big-data-big-jobs-.html">http://www.computerworld.com/article/2492676/big-data/big-data-big-jobs-.html</a>).</p> <p>That means that as big data continues to gather momentum, there are career opportunities at all levels for professionals with the right qualifications. According to a report published in 2014 by McKinsey &amp; Co., the U.S. could face a shortage by 2018 of 140,000 to 190,000 people with "deep analytical talent" and of 1.5 million people capable of analyzing data in ways that enable business decisions.</p>		
<p><b>Program Outcomes/Assessment</b>          State the knowledge to be gained, skills to be learned, and attitudes to be developed by students in the program.          Include assessment methods that will be used to determine the effectiveness of the program.</p>	<p><u>Outcomes</u></p> <ol style="list-style-type: none"> <li>1. Identify basic data science methodologies.</li> <li>2. Apply basic analytics techniques to transform data into information.</li> <li>3. Construct basic database queries.</li> </ol>	<p><u>Assessment method</u></p> <ol style="list-style-type: none"> <li>1. BMG285 departmental exam.</li> </ol>	

*logged 1/15/15 sf Done 2/23/15 mo*

<b>Curriculum</b> List the courses in the program as they should appear in the catalog. List minimum credits required. Include any notes that should appear below the course list.	<b>Advanced Applied Data Analytics Certificate (17 cr)</b> BMG 265 Business Statistics 3 cr BMG 275 Business and Supply Chain Analytics 4 cr CIS 282 Relational Database Concepts and Application 3 cr CIS 110 Introduction to Computer Information Systems 3 cr CIS285/BMG285 Applied Data Analytics 4 cr		
<b>Budget</b> Specify program costs in the following areas, per academic year:		<b>START-UP COSTS</b>	<b>ONGOING COSTS</b>
	<b>Faculty</b>	\$ .	\$ .
	<b>Training/Travel</b>	.	.
	<b>Materials/Resources</b>		
	<b>Facilities/Equipment</b>	.	.
	<b>Other</b>	.	.
	<b>TOTALS:</b>	\$ .	\$ .
<b>Program Description for Catalog and Web site</b>	The Applied Data Science certificate is intended for students who want to pursue a career in data analytics (“big data”) or enhance their current business skills. Students learn how to capture, manipulate, and analyze structured data – the massive volume of numeric values that can be easily stored and sorted. They learn how to transform data into information to enable faster and more intelligent decision-making.		
<b>Program Information</b>	<b>Accreditation/Licensure - None</b>  <b>Advisors – Cheryl Byrne/Mike Galea</b>  <b>Advisory Committee -</b>  <b>Admission requirements -</b>  <b>Articulation agreements –</b>  <b>Continuing eligibility requirements – Minimum grade of “C” in major/area courses.</b>		

**Assessment plan:**

Program outcomes to be assessed	Assessment tool	When assessment will take place	Courses/other populations	Number students to be assessed
Identify basic data science methodologies.	CIS/BMG285 departmental exam	Fall 2018	All students in CIS/BMG285	All students in CIS/BMG285
Apply basic analytics techniques to transform data into information.	CIS/BMG285 departmental exam	Fall 2018	All students in CIS/BMG285	All students in CIS/BMG285
Construct basic database queries.	CIS/BMG285 departmental exam	Fall 2018	All students in CIS/BMG285	All students in CIS/BMG285

## Recommended Course Sequences

### First Semester

Class	Title	Credits
		4
BMG 265	Business Statistics	3
CIS 110	Introduction to Computer Information Systems	

Total

### Second Semester

Class	Title	Credits
BMG 275	Business & Supply Chain Analytics	3
CIS 282	Relational Database Concepts and Application	4

Total

### Third Semester

Class	Title	Credits
BMG285	Applied Data Analytics	4

Total

### Fourth Semester

Class	Title	Credits
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Total

Total Credits Required

17

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**Scoring and analysis plan:**

1. Indicate how the above assessment(s) will be scored and evaluated (e.g. departmentally-developed rubric, external evaluation, other). Attach the rubric.

Exam - answer key, and .case studies

2. Indicate the standard of success to be used for this assessment.

70% of students will score 70% or higher.

3. Indicate who will score and analyze the data.

Departmental Faculty

REVIEWER	PRINT NAME	SIGNATURE	DATE
Department Chair/Area Director	CALFETTE M. YOUNG	<i>[Signature]</i>	2/19/15
Dean	Kimberly Huerens	<i>[Signature]</i>	2/19/15
Vice President for Instruction <input type="checkbox"/> Approved for Development <input type="checkbox"/> Final Approval	William Abernethy	<i>[Signature]</i>	2/20/15
President	Rose Bellanca	<i>[Signature]</i>	2/23/15
Board Approval			3/04/15