Implementing the Microsoft Dynamics Student Certificate Program: Process and Curriculum

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Abstract: The Technology Management department at Utah Valley University (UVU) implemented the Microsoft Dynamics Academic Alliance Program in fall of 2014 of under the direction of the authors. It was decided that two classes would be incorporated: TECH 4420 Organizational Information Technologies (MIS) and TECH 4200 Technology Marketing and Distribution. This article discusses implementation, best practices, future plans and lessons learned via the implementation.

INTRODUCTION

The Technology Management department at Utah Valley University (UVU) implemented the Microsoft Dynamics Academic Alliance Program in fall of 2014 of under the direction of the authors. This certificate seemed like a good fit with the department's emphasis on technology use in business and industry. Increasingly, it seems, companies are incorporating varying styles and levels of enterprise resource planning technologies. It was decided that two classes would be incorporated for the Academic Alliance Student Certificate: TECH 4420 Organizational Information Technologies (MIS) and TECH 4200 Technology Marketing and Distribution. Thus, each class was completely re-designed to incorporate 50 hours each of MS Dynamics GP and MS Dynamics Customer Relationship Management (CRM) use. Next, Technology Management students were informed of the availability of the certification and a web site was created at http://www.uvu.edu/tm/pages/degrees/ms-dynamics.html to further communicate details and address questions. Below, we will outline the implementation of this certificate.

BACKGROUND

The department of Technology Management at Utah Valley University has 251 students and six full time faculty. The university as a whole has over 30,000 students, 576 full time faculty, and approximately 3,400 full and part time faculty and staff (Institutional Research & Information Utah Valley University, 2013). The university focus is on substantive scholarly and creative work to foster engaged learning. This can be seen in not only its mission statement but its core values:

INSTITUTIONAL MISSION

Utah Valley University is a teaching institution which provides opportunity, promotes student success, and meets regional educational needs. UVU builds on a foundation of substantive scholarly and creative work to foster engaged learning. The university prepares professionally competent people of integrity who, as lifelong learners and leaders, serve as stewards of a globally interdependent community.

INSTITUTIONAL VALUES

As a regional state university composed of qualified professionals, we are committed to these core values:

- Learning and scholarship
- Critical and Creative Thinking
- Academic Freedom
- Ethics and Integrity
- Accountability and Openness
- Engaged Learning
- Diversity
- Global Engagement

A complete version of the UVU mission and values s can be found in appendix A.

Technology Management Department Curriculum

Within the context of the institution resides the department of Technology Management. The mission of the Technology Management Department is "to provide academic degrees in technical and operations management relevant to the global economy of the 21st century. Our courses provide appropriate knowledge and skills through engaged learning and hands-on activities and foster scholarship investigation, ethical responsibility, creativity, and lifelong learning. Students will be prepared for professional careers in management and entrepreneurship as well as provided with a strong foundation for advanced academic study. Our graduates will also be prepared to contribute to their employers and communities through leadership, service, and a concern for the environment" (Technology Management Utah Valley University, 2014).

The basic curriculum of students in Technology Management includes discipline core courses including innovation and change management, entrepreneurship, project management, quality assurance, ethics, organizational information technologies, financial management, human resource management, and overall technology management. Within this context it seemed that the Microsoft Dynamics Academic Alliance Student Certificate program would be a perfect fit. In a number of ways it is, although not without challenges.

Gaining Experience with MS Dynamics

The implementation of the Microsoft Dynamics Student Certificate program is not something that can be done overnight. For our institution, the process actually covered a period of three years. The process began by meeting with our Microsoft Evangelist who visits the campus periodically. When discussing our goal of hands-on experience with an ERP system he indicated that Microsoft provided free access to their Dynamics ERP offerings and suggested that a faculty member attend the Microsoft Dynamics Academic Alliance (MSDAA) pre-conference held prior to the annual Convergence Conference. Subsequently one of the authors was able to attend the pre-conference and the process of learning about Microsoft Dynamic began.

One of the key items learned at the MSDAA meeting was the existence of user groups for the various Dynamics offerings. After some investigation it was discovered that a local chapter of GP Users Group (GPUG) was holding monthly meetings not far from our university. While attending such a meeting we met a representative from a Microsoft Dynamics Gold Partner who took an interest in helping our department achieve our ERP goals. Together we decided that Dynamics GP would be best suited for our needs based on the fact that most of our students went to work in small to medium-sized businesses. With his help and some consulting services from his company our college IT support people were able to install GP 2010 on one of the college servers. Finding the time to learn GP however proved to be a challenge due to time constraints.

Because of this, one of the authors applied for and was granted a one-semester sabbatical with the express purpose of learning GP and meeting with several of the local companies using the product. Using the many free training manuals (Technet, 2013; Elearning 2013), books (Bellu, 2008), and YouTube videos such as (YouTube, 2013) as a starting point we were able to learn the basics of GP and what functions would be best suited for our students. In addition, the sabbatical included attending the national GPUG conference where additional learning from GP users and consultants occurred. One of the goals of the sabbatical was to develop a series of overview lessons that could be used to help train the department faculty in the basics of GP. Because a GP upgrade had become available, it was decided to base these lessons on GP 2013 which we had installed on our server. During the sabbatical a series of seven lessons were developed based on the GP 2013 Desktop Client. The following semester these lessons were presented to the department faculty on alternating weeks with our department meetings. This exercise was very helpful in discovering all of the issues with our installation of GP. Faculty members were encouraged to further study the lessons and complete the exercises.

MS Dynamics Certificate

During the last MSDAA conference we learned more details about the requirements for the student certificate program. The faculty decided to utilize two of our BS degree courses to apply for the program with about 50 hours of Dynamics learning in each. The first of these was our MIS course where we would use GP and the second our Marketing course where we planned to use Dynamics CRM online (One of the authors had attended the CRM training class prior to the MSDAA conference and had received curriculum and lesson materials).

The catalog descriptions for the two courses are as follow:

TECH 4200 Technology Marketing and Distribution
Teaches management of marketing, forecasting, and distribution within technical fields. Focuses on market-based profit and customer satisfaction. Applies concepts to technology planning and innovation. Prepares for national distribution certifications.

TECH 4420 Organization Information Technologies
Introduces students to how information, and the management of that information, can affect the structure of organizations and how they operate. Covers technical and organizational foundations of information systems along with contemporary approaches to building, managing and protecting information systems. Emphasizes how information technology affects the decision-making and policy development process. In addition, examines the ethical and legal issues raised by the capabilities of information technology.

During the past summer the authors met regularly to identify the course activities and design the new curriculum. Once this was accomplished, the application forms for the student certificate program were completed and sent to the MSDAA. After several weeks our application was approved and we prepared to teach the revised courses during the fall 2014 semester.

Our first goal was to ensure that any course modifications fulfilled the needs of the university and the course curriculum. Next, we wanted to ensure that each course would fulfill the requirements and expectations of the certificate program itself.

It was determined that each course would offer approximately 50 hours of MS Dynamics content, much of which would be hands-on experience with the software itself in an online cloud-based platform. Additionally, it was intended to use MS Dynamics online tutorials and resources for training, although this proved to be a challenge due to a transition by Microsoft from one platform to another for online training which caused difficulties in both attaining access and ensuring functionality of selected resources. Thus, each faculty instead either referenced external resources such as YouTube videos or else developed their own custom instructions for each particular assignment for training purposes. Each instructor did, however, successfully make use of the online environment for their applicable software environments—MS Dynamics GP and MS Dynamics CRM--and were able to successfully create customized student accounts which remained functional throughout the term.

The following sections describe the curriculum that was developed and some lessons that were learned from the experience.

DYNAMICS GP CURRICULUM

This section describes the MIS course curriculum developed to meet the requirements of the Microsoft Dynamics Student Certificate program. Since the degree focus is on management, the course objectives were designed to give students an understanding of how to use business data for decision making. The course objectives as defined in the syllabus are as follows:

Upon successful completion of this course students should be able to:

1. Assess and compare major categories of information technologies, describe their functions and purpose, and apply them to management situations
2. Illustrate the ways in which information technologies (IT) and Management Information Systems (MIS) support organizational processes and decision making.
3. Be able to utilize databases and spreadsheets to produce information for decision making
4. Gain a working knowledge of an ERP system and its use as an MIS.
5. List the major considerations associated with evaluation and implementation of IT
6. Understand the basic concepts of information security and privacy
7. Examine emerging trends and possible future consequences of IT

Previous versions of the MIS class had relied heavily on the use of a textbook (Haag & Cummings, 2010). With the revised curriculum to include the use of Dynamics GP it was decided to make the purchase of the book by students optional – but recommended. In its place a number of short documents were developed which summarized the textbook content. The use of the Canvas course management provided the structure for organizing all of the course content.

The first five weeks of the semester provided a lead in to the hands-on use of Dynamics GP. The first week covered the various functional areas of a business and the different roles within each. An overview of information systems was also presented which provided a historical context and framework for today's Enterprise Resource Planning (ERP) systems. The second week provided a review of the hardware and software infrastructure required to support ERP and the role of the Information Technology (IT) Department. A more detailed overview of ERP and cloud computing was also presented. The third week began the focus of using the IT infrastructure for the support of management decision making through the use of decision support systems. A review of Microsoft Excel was also given (students were expected to have a good working knowledge of Excel from previous classes). The use of what-if analysis and pivot tables for data summaries were stressed. The focus of the next two weeks was on the central role of databases. The concepts of data warehouse and big data were presented. Particular attention was paid to the design (E-R diagrams) and implementation of a relational database using MS Access. Students developed a small ERP-like application in learning the concepts of data tables, primary and foreign keys, joins, and reporting.

With this background, it was felt that student would be well-prepared for hands-on experiences in how an actual ERP system worked using the sample Fabrikam data provided with Dynamics GP. Before discussing this curriculum in more detail it should be noted that with the release of GP2013 R2 we decided to switch from using the desktop client used for faculty training to the Web client. Experience had shown that the Web client was much faster at initializing GP and in operational use. In addition, we were preparing to offer this course online the next semester. Use of the Web client eliminated the need for installation of any GP software in the labs or at students' homes. Each of the following weekly lessons followed the pattern of readings, demonstration videos, hands-on laboratory exercises, homework assignment, and periodic quizzes. The labs were developed by the authors based on the faculty training lessons mentioned previously with changes made for the Web client interface (for each lab, students were required to submit a file giving answers all questions from the lab and containing screen shots showing that they had completed all lab activities). A listing of the modules from Canvas showing the activities for each of the lessons is available in the Appendix.

GP Lesson One

The main objective of this lesson is to give students an understanding of the ERP investigation and selection process, provide an overview of Dynamics GP, and have the students learn about the sample company Fabrikam. Readings from Web documents and videos provided the study content. The first hands-on GP Lab taught the students how to access the Dynamics GP application using the Web client (generic student IDs and passwords were created), how to set User Preferences, how to customize their Home Pages, and how to change their password. Detailed directions and screen shots with arrows helped them navigate through the process. The concept of GP Roles was introduced (students were given SUPERUSER roles to open their access to all parts of GP). The final part of the lab then walked the students through various screens to learn about Fabrikam – its employees, products, customers. To assess what the students had learned they were required to write a report about the company.

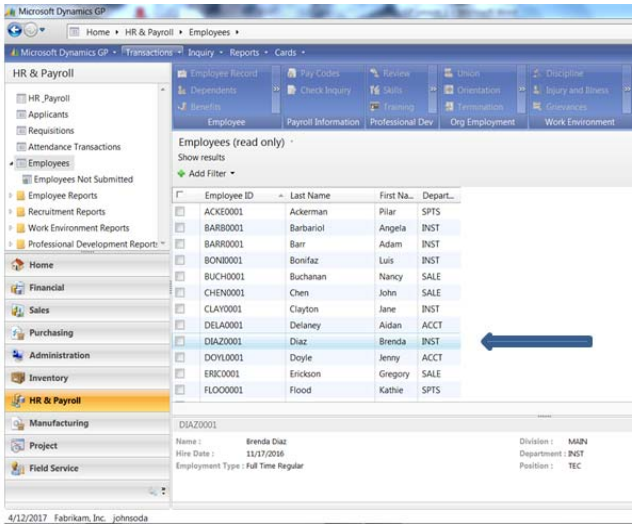

Figure 1: Sample Screen Shot

GP Lesson Two

This lesson covered the Financials area of GP. A prerequisite for the MIS class is accounting so it was assumed that students had some knowledge of the area. Those that needed a refresher in accounting terms were referred to AccountingCoach.com. Students were first introduced to the Chart of Accounts for Fabrikam and the distinction between posting and unit accounts. Next the General Journal file for Fabrikam was presented along with a review of debits and credits. Students were shown how to sort the account transactions and to recognize simple (one debit and one credit) and more complex transactions as in entries 3,340 and 3401 in the following screen capture.

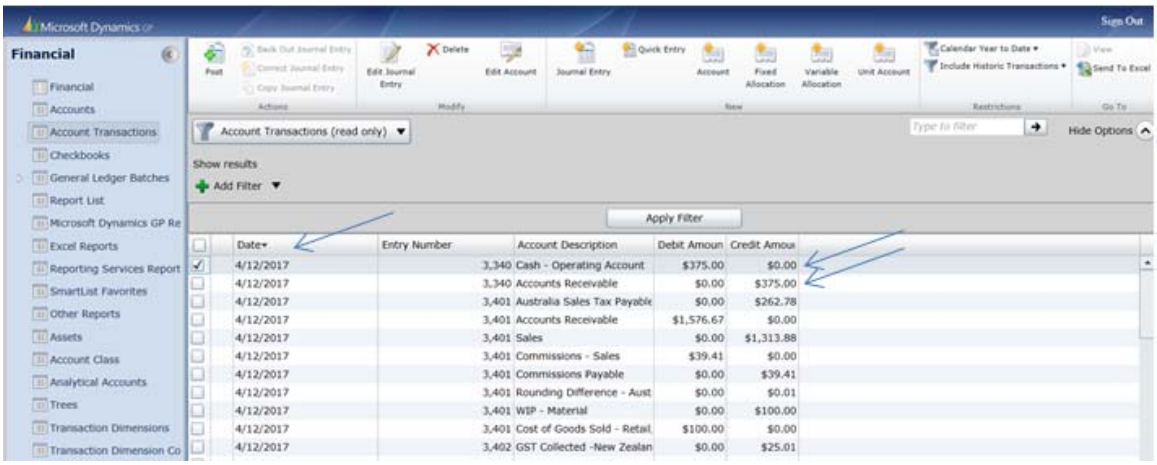

Figure 2

Next, the General Ledger (GL) was introduced along with the posting of transaction batches for the journal to the ledger. Following this, the Detail Inquiry window was used to display the transactions posted to a specific GL account. The generation of financial reports (Balance Sheet and Profit and Loss) was then discussed. Unfortunately these reports were not available for generation under the Web client so their generation was demonstrated using the desktop client. Finally, the use of SmartLists was introduced and students were asked to run a SmartList (Account Transactions – Current Financials Journal*) from the Favorites shortcut, view the data, and export the list to Excel. This Excel file was then used as the basis for the lesson assignment shown below.

> Use the Excel file you saved from the Financials Lab.
> Create a Pivot Table with Transaction Date in the report filter and Account Description as row labels.
> Create sums for Debit Amount and Credit Amount.
> Filter to show only Transaction Dates in 2014.
> Finally, filter to show only Account Descriptions that start with the Word "Cash"

GP Lesson Three

The focus of this lesson was on generating reports from GP. The lesson readings and videos reviewed each of the GP reporting options from ad-hoc reporting (SmartLists, Excel Reports, Navigation Lists, Inquiry Windows) to in-depth reporting (Report Writer, Management Reporter, Analysis Cubes, and SQL Server Reporting Services) to external facing tools (MS Word Templates and Letter Writer Assistant). During the lab exercise students learned how to use the SmartList Builder to create a report by joining two tables and restricting the rows returned. Students were also shown how to create a refreshable Excel report using the desktop client since this builder was not available with the Web client. Another feature from the desktop client – that of Resource Descriptions showing GP table and field names was not available with the Web client so a spreadsheet developed by a GP consultant was presented as an alternative way of understanding GP tables.

GP Lesson Four

This lesson covered the sales and accounts receivable capabilities of GP. Two readings and two videos were provided to give the students the prerequisite knowledge to complete the GP lab. This lab demonstrated each of GP's sales transactions types (Quote, Order, Invoice, Return, Payment, etc.). Students began by reviewing the "All Sales Transactions" navigation list, selecting an invoice and then drilling-down to the "Item Detail" level where the account distributions of the transaction were viewed. Following this the customer and salesperson maintenance cards were demonstrated and the creation of a sales order transaction covered. For the accounts receivable portion of the lab students executed the "SAMPL Customers past Due Customers" Excel report, noted the customers needing attention,

and then viewed the "Aging" report for one of these customers. The Letter Writing Wizard was then demonstrated from the desktop client since that feature was not available in the Web client.

The next lesson did not deal directly with GP. Rather the focus was on Customer Relationship Management systems and e-commerce. A demonstration of Dynamics CRM was given and an introduction to HTML provided. The assignment for this lesson was to develop a marketing Webpage for Fabrikam using basic HTML.

GP Lesson Five

This lesson covered GP inventory and fixed asset management. A reading and several videos provided an overview for the students including inventory classes, valuation and price methods, order point and order quantity, and fixed asset depreciation. In the lab exercise students used the inventory setup window to see the classes and types defined for Fabrikam products and then used the options tab for an item to view suggested items which could be substituted for a sold out product and related items which could be offered in addition to the particular product. Students then used the Item Resource Planning window to see the various parameters for inventory management. The final part of this lab focused on fixed assets. Students used the Asset navigation list to view the few fixed assets in the database noting the various asset classes. Next the Financials Set Up window was used to demonstrate book classes and various depreciation methods. Finally, students were asked to create a SmartList from the Asset General Information Master table, export the list to Excel, and crated a pivot table showing total acquisition costs for each assed class.

GP Lesson Six

This lesson covered the Purchasing and Accounts Payable portions of GP. The readings provided background knowledge of Supply Chain Management and the operations of the Purchasing and Accounts Payable functions in a business. A video provided the students with an overview of GP's capabilities in these areas. The hands-on lab began with experience in maintaining the vendor table. Next the students were shown the generations of a PO, the receipt entry when the ordered items were received, the entry of the vendor's invoice, the payment of an invoice, and the account distributions for the transaction. Following this, students ran an Excel report to view shipments received but not invoiced and another report to show the sum of all purchases made for each vendor in a given year. Next, accounts payable was introduced by viewing a SmartList to see which payables were past due. Finally, the process of generating and printing checks for vendor invoices was shown. The remaining part of this lesson covered the availability of third-party products which supplement GP capabilities. Students were given access to scanned copies of vendor brochures collected by the authors at Convergence and the GP User's Group Conference. The assignment for the week was to research one of the products of interest and write a short report about it.

GP Lesson Seven

The final GP lesson involved Human Resources (HR) and the development of Dashboards for management. A background reading and two videos about HR and Payroll were provided for study. In addition, a reading about creating dashboards with Excel was included. The lab walked the students through GP's HR capabilities including maintaining basic employee data, employee benefits, defining supervisory relationships, employee dependents, and employee reviews. The payroll features of GP were not covered. The Microsoft Dynamics GP Report "Detailed Employee List… Demo" was then viewed. Finally, students created a SmartList from the Payroll Master table and exported the data to Excel. The Excel file was then used as the basis for creating an HR Dashboard. The assignment for the week involved the creation of an organizational chart for Fabrikam.

The final two weeks of the semester covered the topics of information security, computer crime, digital forensics, workflow, content management, and future trends in information technology. There were not GP labs for these topics however a demonstration was provided on setting up a GP user and defining security roles and tasks and on defining workflows in GP. The final exam for the class consisted of two parts. The first part consisting of multiple choice and true/false questions covered the MIS content. The second part involved ten questions requiring the hands-on use of

GP. It involved eight query type questions, the creation of a SmartList, and the creation of a pivot table from an Excel report.

DYNAMICS CRM CURRICULUM

The MS Dynamics CRM curriculum was incorporated in to the TECH 4200 Technology Marketing and Distribution course. The content of this course was significantly modified due to this change. The original version of the course did not make use of any database-driven systems and instead focused on the development of marketing plans and materials for management using more traditional means of locally written and stored documentation. Ideas for the structure of the curriculum and key areas of content came from research of relevant literature in the area of customer relationship management (Dyche, 2002; Kumar & Reinartz, 2012; Greenberg, 2010).

The MS Dynamics CRM curriculum used in this class has three areas of emphasis overall:

1. Discussion and assessment of CRM-based systems and tools
2. Hands on activities using MS Dynamics CRM
3. Group activities for a pseudo company called Starboard Lashing

A full outline of the course can be found in Appendix C.

In the first weeks of the course, the students and instructor worked together to define a company to be used for group project work throughout the term. The company is named Starboard Lashing and specializes in selling rope. Further details are established by the class, including size of company, location, business priorities, merchandise and materials, etc. The instructor then set up the MS Dynamics CRM to include data and resources relating to the company. The instructor also set up access for each individual student and ensured each had applicable records and resources associated with them. This includes, for example, a short list of assigned leads. Instructions, as was the case with MS Dynamics GP, are detailed, often customized, and in a number of cases include graphical depictions as well as written descriptions.

Module One: CRM Context and Definition and Module Two: CRM Strategy and Tools

In the first two modules the focus is on describing customer relationship management systems generally. During these first two weeks the students learned about CRM context and definitions as well as potential CRM strategies and tools. While MS Dynamics CRM is mentioned, it is done so in the context of a broad pool of tools and resources. An example assignment from these first two modules is reading and reviewing *A Case for Analytical Customer Relationship Management* as written by Jaideep Srivastava1, Jau-Hwang Wang, Ee-Peng Lim, and San-Yih Hwang.

Module Three: CRM and Customer Service and Module Four: Try Our Hand Customer Service

At this point we began looking at components of the CRM system itself. We turned our attention specifically to MS Dynamics CRM as the software system of choice. For starters, we addressed customer service. First, an in class exercise assessed what the students determine to be good and not-so-good customer service. A second exercise addressed how to handle customer inquiries and questions. Students were also assigned a paper in which they give an overview of the functionalities of CRM systems during module three.

During module four, students got their first actual experience with MS Dynamics CRM. For this first lab, the student's number one task was to successfully access and then become familiar with the system. Each student was assigned a small number of customers which have already been entered in to the system. The job of the student was to identify their customers, add posts and activities for each, and complete activities as necessary to resolve case. Next they added a case of their own to a customer of their choosing. They needed to include details for the case. Lastly, they completed a module review in which they answered multiple choice questions relating to the CRM.

Module Five: Marketing, Promotion & Reputation Strategy and Module Six: Try our Hand at Marketing Strategy

For modules five and six, student looked at marketing strategies. During module five they began a group project that continues throughout the term. Their first task as a group was to develop a Marketing/Advertising Campaign/Strategy. Then, as individual participants, they participated in a discussion about the role of CRM systems versus the use of Web 2.0 tools and resources.

After they completed their own group marketing strategy, they are given their second lab activity. In this lab each student was required to independently create a marketing campaign (and associated marketing list and schedule dates) for a 10 person static list. Next, they were asked to create a marketing campaign (and associated marketing list) for all of their dynamic current open leads which were set up by the instructor. For this task they needed to change the campaign type to direct marketing and for the offer note they can receive a 10% discount if they spend over $50. For a third task they were to create a marketing campaign (and associated marketing list) for a dynamic contact marketing list based on a city in Utah. Next, they added email addresses for your open leads and then create a marketing email activity which is tied to your dynamic open leads marketing campaign. They were reqired to include details such as an actual message, duration, and subject. Lastly, they added two campaign activities of their choosing to their 10 person static list marketing campaign. This was to include a campaign budget and track the campaign costs based on these two activities.

Module Seven: CRM & Business Performance and Module Eight: Market-based Profit & Customer Satisfaction

Modules seven focused attention on measuring business performance including profit and customer satisfaction. During module seven, students completed group work on the pseudo company Starboard Lashing and assessed sales and business performance. Students also independently completed a midterm exam.

Module eight focused on the related priorities of profit and customer satisfaction. Students discussed pricing strategies, profit models, and means of assessment of customer satisfaction. During this module, students completed a discussion addressing what they see as most important in product pricing and why.

Module Nine: Sales Force Automation and Module Ten: Try Our Hand at Sales

Modules nine and ten turn their attention to sales force automation, using MS Dynamics CRM as a case-in-point example of such a system. Students were required to write a paper which addressed the purpose and benefits of sales force automation, the costs and drawbacks, and what they see as the role of sales force automation in the future.

In module ten, students were given their third hands-on CRM lab. Tasks in this lab activity included:

1. Convert a lead to an opportunity
2. Change a lead to disqualified
3. Create a sales brochure for Starboard Lashing which is either a leave-behind, point of sale, response to inquiries, or brochure as a support tool. This brochure must be uploaded to MS Dynamics CRM and contain necessary details for use in step 4 below.
4. Create, maintain and use sales literature.
5. Create, maintain and use competitors. Find a company that could be an actual competitor to Starboard Lashing. Add real company information.
6. Create a product -- add a line of rope to be sold by the yard

Module Eleven: Analysis: Firm, Functional & Customer Level and Module 12: Try Our Hand at Analysis

Modules eleven and twelve emphasize business analysis at the firm, functional, and customer level. In module nine the students work as groups to create an assessment and analysis plan for Starboard Lashing. As a part of their report the group must incorporate decision support tools. Students also complete an independent analysis task as well.

During module twelve, students were to complete an assessment of Starboard Lashing using dashboards and reports located within MS Dynamics CRM. However, for the first term at least this assignment had to be modified and replaced due to issues in establishing access for students to said dashboards and reports. The tasks accomplished though were essentially the same:

- Give three examples of business analysis (aka statistics/data analytics) facts you can determine based on the use of dashboards and/or reports.
- Give two examples of limitations in the use of statistics and numbers-based business analysis using tools such as dashboards and reports
- List benefits and drawbacks in the use of statistics and numbers-based business analysis using tools such as dashboards and reports
- Give two examples of other methods or resources you would use for business analysis that are not usually a part of statistics and numbers-based research using tools such as dashboards and reports
- Choose one business analysis area and address how you would share that information with the rest of the company and/or stakeholders

Module Thirteen: Planning your CRM Region and Module Fourteen: Managing your CRM

During these two modules the students focus on planning and managing their own CRM system implementations. During module thirteen they work as a group and establish a training plan as well as an overall customer service plan. Then, during Module fourteen they put all of their group work together for a presentation which occurs in module fifteen--the final module of the class.

In module fourteen a guest speaker was invited from industry to discuss the use and management of a CRM system in a real-world environment. Students are then tasked with creating their own CRM plan for a company of their choosing including the following:

- Needs analysis
- Functional Requirements
- Fit (match) /Gap (mismatch) Analysis
- Preparation
- Piloting and Testing
- Roll Out

Each above segment is discussed in class, as are common issues to be addressed in implementations of new or modified information technology based systems such as Customer Relationship Management Systems (CRMs), Supply Chain Management systems (SCMs), Enterprise Resource Planning systems (ERPs) or others.

Module Fifteen: Final Group Presentation

In this final module the groups present their findings and recommendations for the pseudo company Starboard Lashing based on their work throughout the term. Along with a presentation the group must submit a final report which includes the following categories

- Introduction (needs, expectations, rationale for plan, description of what will be found in report)
- Customer service plan (module 3)
- Marketing and promotion plan (module 5)
- Sales and business performance plan (module 7)
- Assessment and analysis plan (module 11)
- Training plan (module 13)
- Conclusion (review of needs/expectations, review of relevance of each area addressed in report, implementation commentary, next steps)

If forms or documents were given out in class to be completed by the group for various tasks, these must be incorporated in to the final report.

Lessons Learned and Next Steps

For CRM, perhaps the greatest lesson learned is the value of checking and re-checking external resources and systems throughout the term. What was operational at the start of the term as a resource or otherwise may not necessarily be accessible later on—particularly in relation to external tutorial or instructional files. It is best to have a backup plan for all external resource use, even if the originator is a company such as Microsoft. In our case, files that originally were housed in an area called IT Academy within Microsoft.com as well as within a segment called dynamics.mircosoftlearning.com were replaced with a new platform called Customer Source. Based on the late notice of the change after course design was completed, as well as on struggles with attaining access for students since the new system required a Microsoft Live account for each individual, coupled by issues downloading any materials locally, this was perhaps the greatest single challenge in the TECH 4200 Technology Marketing and Distribution course.

A second CRM challenge was near the end of the term where some assignments necessitated student access to administrative-level dashboards and reports. Since these elements worked for the instructor account and the students had been given virtually identical access, it was wrongly assumed that it would operate for them as well in the same fashion. As noted above, the issue was not able to be resolved in the time period of the module so an alternative but similar assignment was given in its place. The situation was also used as a learning opportunity relating to system implementations, training, and unexpected challenges.

A perhaps fairly high risk of the setup of MS Dynamics CRM accounts was that each student was given administrative access as well as access to all system roles other than customization. This means that individual students had the capability to affect not just their own work but the work of others and actually of the system itself. In one case a student changed some of the default settings for adding pricing to items in the online catalog which affected everyone else. Again this was used as a learning experience in the classroom.

It should also be noted that CRM specific information was added for each student. This required the instructor to spend time individually setting up each account. While this is quite real-world, it does require not only extra work but documentation as well. Additionally, the instructor opted to use data for a fictional company called Starboard Lashing. This, as well, necessitated the development and inclusion of company data that did not exist within the system. In retrospect, the instructor might have opted instead to use default sample data supplied by Microsoft.

The Dynamics GP class was a bit easier since sample data was included, however the authors did have to add more records in certain areas to demonstrate the capabilities of GP. In addition, much of the existing data was not helpful because it was inconsistent. A rich sample database for both CRM and GP would go a long way to show meaningful results to students' analysis. Finally, the use of the GP Web client proved to be a two-edged sword. On the one hand, the system performed much faster than the desktop client had but, as was mentioned, lacked the full functionality and reporting available in the desktop client. It would also be helpful if we could find some way to prohibit students from deleting records from the sample data. One of the GP students (accidently or on purpose) deleted a record about which a question was being asked on the final exam. Finally, it should be noted that we plan to utilize a backup copy of the sample data for each new term rather than having to clean up the previous semester's data.

Even with the aforementioned challenges, however, the incorporation of MS Dynamics GP and MS Dynamics CRM was seen as positive by students based on an anonymous survey given in each class near the end of the term. The survey was distributed and collected by a third party to mitigate potential bias issues. See appendix D for a sample of the survey. In response to a question about the benefit derived from the use of MS Dynamics GP and MS Dynamics CRM, 31% responded that it was very beneficial, 65% that it was somewhat beneficial, and only 4% that it was not beneficial. In response to a question if the department should continue to pursue the Student Certificate program, 58% responded with a definite yes, 35% with a qualified yes, and 7% with a no answer.

Based on a review of the students' comments the following lessons were learned. First, the department needs to advertise the certificate program more widely. Second, students wanted more in-depth use of Dynamics CRM. Third, more clarity needs to be added to the GP labs and assignment to guide the students' learning.

During the spring 2015 term, both classes offering GP and CMS content will be taught by the authors online as Internet classes. Each class will have approximately 40 students. Undoubtedly, this will provide additional challenges and require revisions. The authors aim to develop and refine the courses enough to offer additional sections to be taught by other instructors within the department of Technology Management. The authors also hope to incorporate more Microsoft-based videos and tutorials in the course content. The class which incorporates CMS plans to follow the approach used in the GP-related class of providing generic rather than specific student IDs. This way there will be less transition from term to term, which is important because UVU intends to continue its use of MS Dynamics GP and CRM and the Academic Alliance student certificate program.

CONCLUSION

While the authors have experienced challenges in their implementation of MS Dynamics GP and MS Dynamics CRM, both intend to continue their use well in to the future. Having hands on experience with software such as this is instrumental for students and offers active learning situations as well as engaged learning. The authors hope to continue to expand and refine the use of software such as this in its programs. It is also their hope that this article has helped inform others who may be considering similar implementations at their own institutions.

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APPENDIX A

Mission

Utah Valley University is a teaching institution which provides opportunity, promotes student success, and meets regional educational needs. UVU builds on a foundation of substantive scholarly and creative work to foster engaged learning. The university prepares professionally competent people of integrity who, as lifelong learners and leaders, serve as stewards of a globally interdependent community.

Values

As a regional state university composed of qualified professionals, we are committed to these core values:

Learning and Scholarship

UVU values preparing intellectually resilient graduates for a future of continuous and cross-disciplinary learning. We encourage students, faculty, and staff to engage in a broad array of academic, professional, and experiential learning opportunities and scholarly endeavors that foster professional and personal growth, that build real-world capabilities, and result in honest, challenging, and significant intellectual work.

Critical and Creative Thinking

UVU values the broad acquisition of knowledge and recognizes the value of critical and creative thinking and practical skills. We prepare students to contribute to society, adapt creatively to new challenges, and thrive in an ever-changing world community.

Academic Freedom

UVU values the free exchange of ideas and builds an academic climate conducive to such expression. We encourage thoughtful debate and civil discourse. We respect the right and responsibility of faculty and students to explore topics relevant to the educational experience.

Ethics and Integrity

UVU values ethics education and ethical behavior. We engage members of the campus and community in experiences that encourage a broader understanding of ethics across disciplines, professions, and communities. Honor and integrity, respect and civility, commitment and diligence are essential in our learning community and in interpersonal relationships.

Accountability and Openness

UVU values the opportunity to be accountable for our academic, professional, and fiscal stewardships. We welcome the responsibility to assess and examine the effectiveness and implications of our programs and initiatives. UVU embraces open dialogue and transparent decision-making.

Engaged Learning

UVU values student engagement, scholarly excellence, and creative work. We support active learning and professional development for students, faculty, and staff. We cultivate community leadership and strong relationships that extend the university into the workplace and region.

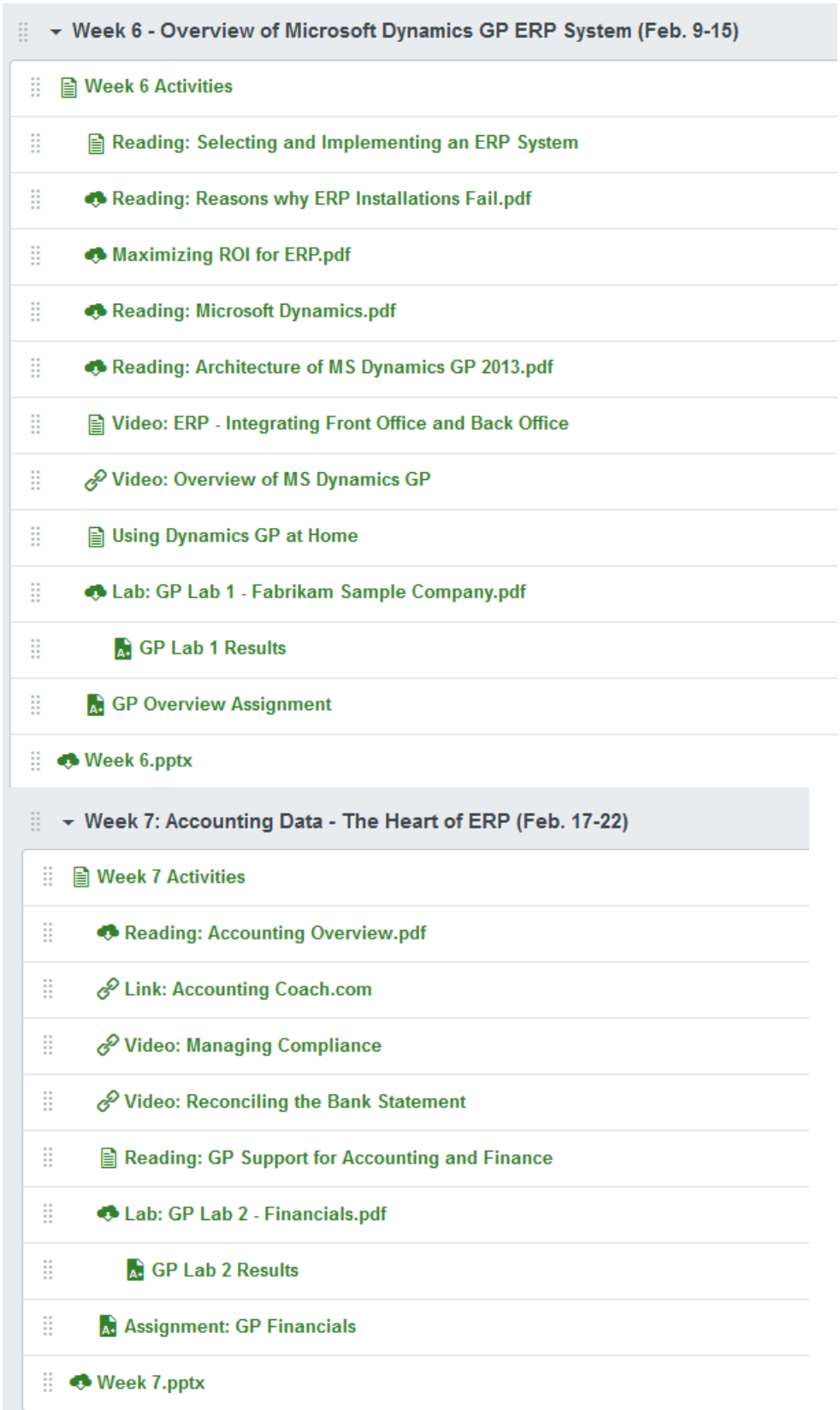
Diversity

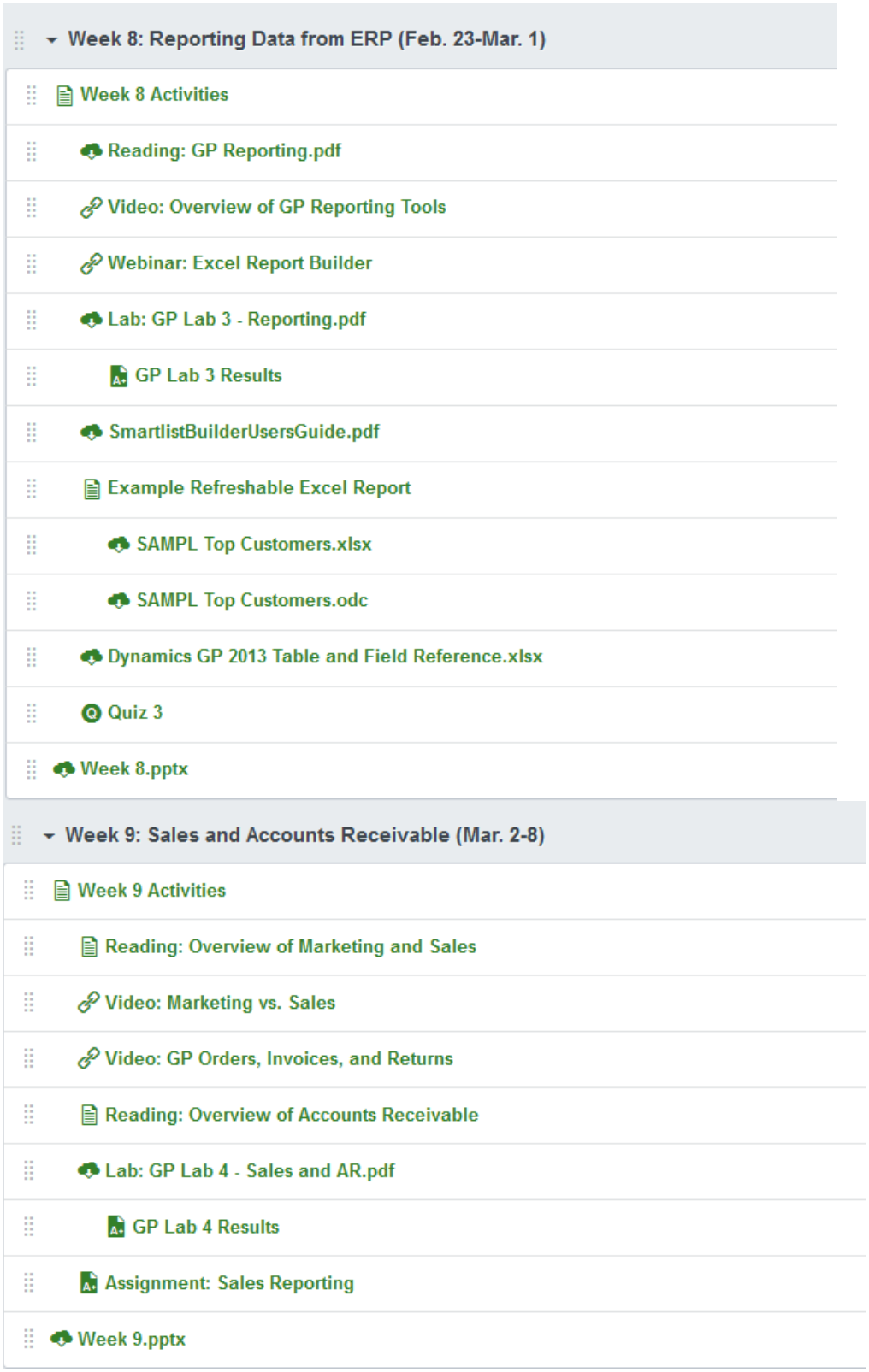
UVU values a welcoming and diverse learning environment that embraces all people and transcends differences. Diversity enriches the intellectual and social engagement of the learning community. We support a student and workforce community that reflects the entire population.

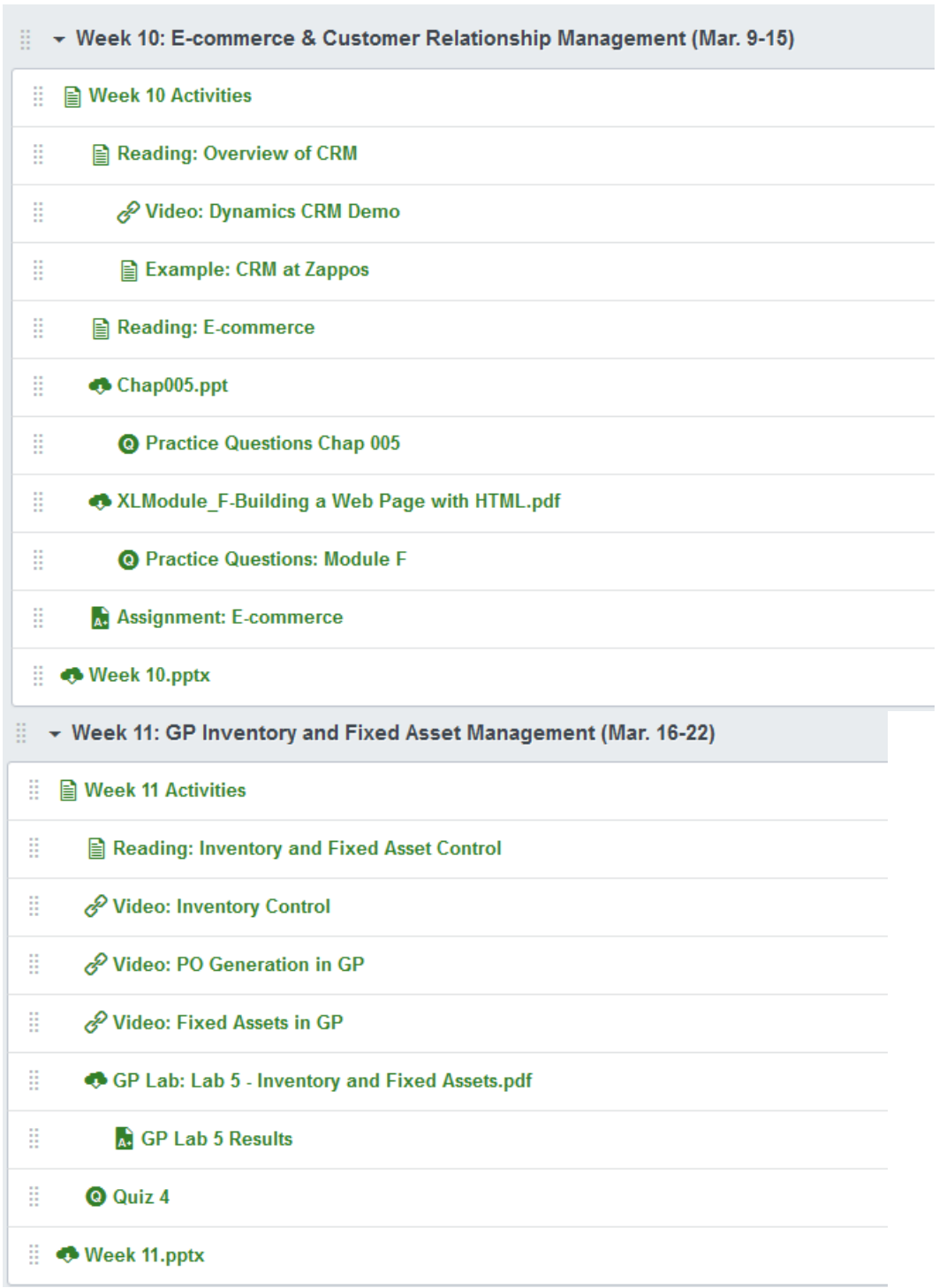
Global Engagement

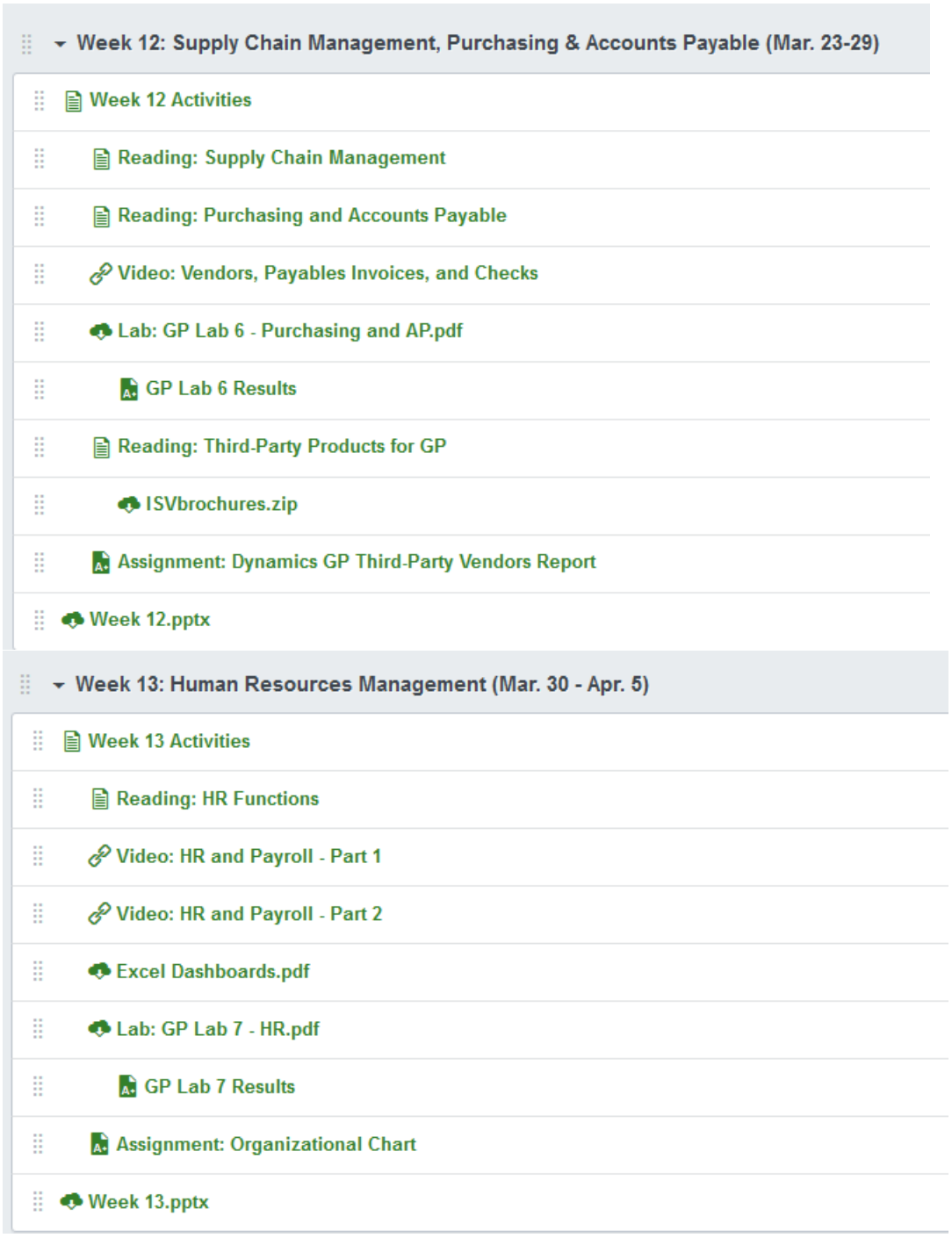
UVU is a multicultural community that values cultural literacy and actively supports learning that crosses cultural and political boundaries. We engage locally, regionally, nationally, and globally in order to fulfill our mission.

Appendix B

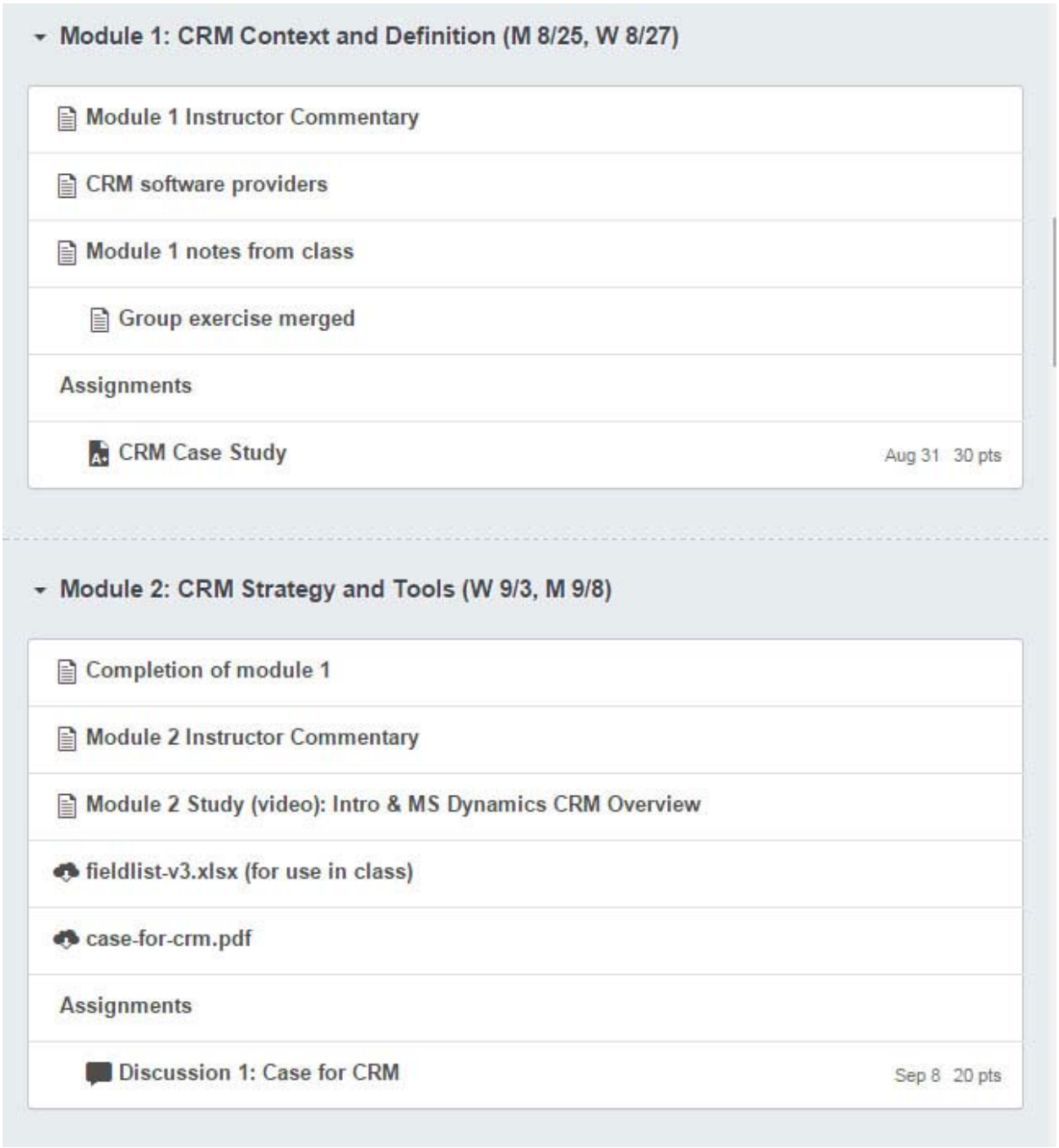

Week 6 - Overview of Microsoft Dynamics GP ERP System (Feb. 9-15)
Week 6 Activities
Reading: Selecting and Implementing an ERP System
Reading: Reasons why ERP Installations Fail.pdf
Maximizing ROI for ERP.pdf
Reading: Microsoft Dynamics.pdf
Reading: Architecture of MS Dynamics GP 2013.pdf
Video: ERP - Integrating Front Office and Back Office
Video: Overview of MS Dynamics GP
Using Dynamics GP at Home
Lab: GP Lab 1 - Fabrikam Sample Company.pdf
GP Lab 1 Results
GP Overview Assignment
Week 6.pptx
Week 7: Accounting Data - The Heart of ERP (Feb. 17-22)
Week 7 Activities
Reading: Accounting Overview.pdf
Link: Accounting Coach.com
Video: Managing Compliance
Video: Reconciling the Bank Statement
Reading: GP Support for Accounting and Finance
Lab: GP Lab 2 - Financials.pdf
GP Lab 2 Results
Assignment: GP Financials
Week 7.pptx

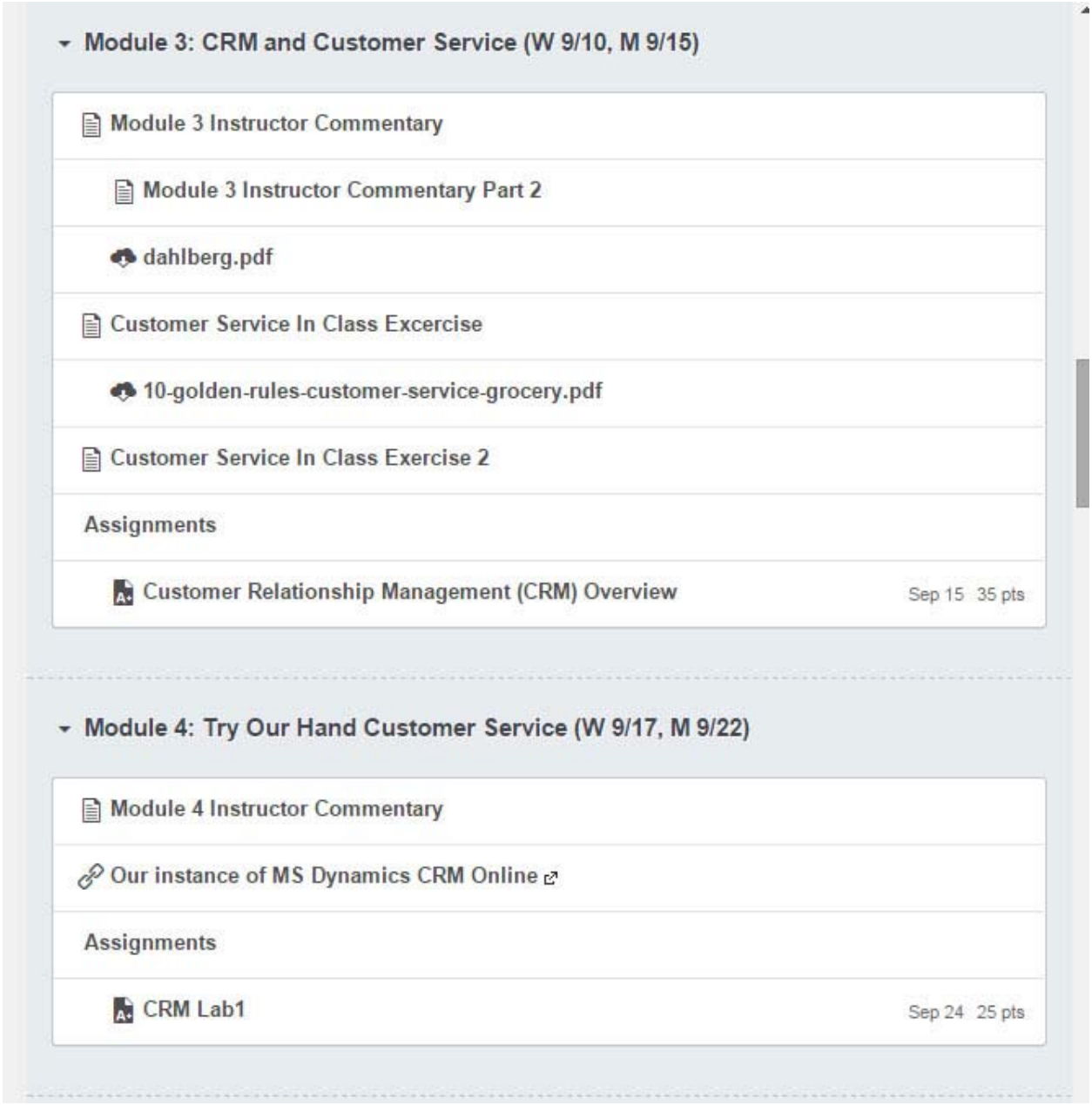

Week 8: Reporting Data from ERP (Feb. 23-Mar. 1)
Week 8 Activities
Reading: GP Reporting.pdf
Video: Overview of GP Reporting Tools
Webinar: Excel Report Builder
Lab: GP Lab 3 - Reporting.pdf
GP Lab 3 Results
SmartlistBuilderUsersGuide.pdf
Example Refreshable Excel Report
SAMPL Top Customers.xlsx
SAMPL Top Customers.odc
Dynamics GP 2013 Table and Field Reference.xlsx
Quiz 3
Week 8.pptx
Week 9: Sales and Accounts Receivable (Mar. 2-8)
Week 9 Activities
Reading: Overview of Marketing and Sales
Video: Marketing vs. Sales
Video: GP Orders, Invoices, and Returns
Reading: Overview of Accounts Receivable
Lab: GP Lab 4 - Sales and AR.pdf
GP Lab 4 Results
Assignment: Sales Reporting
Week 9.pptx

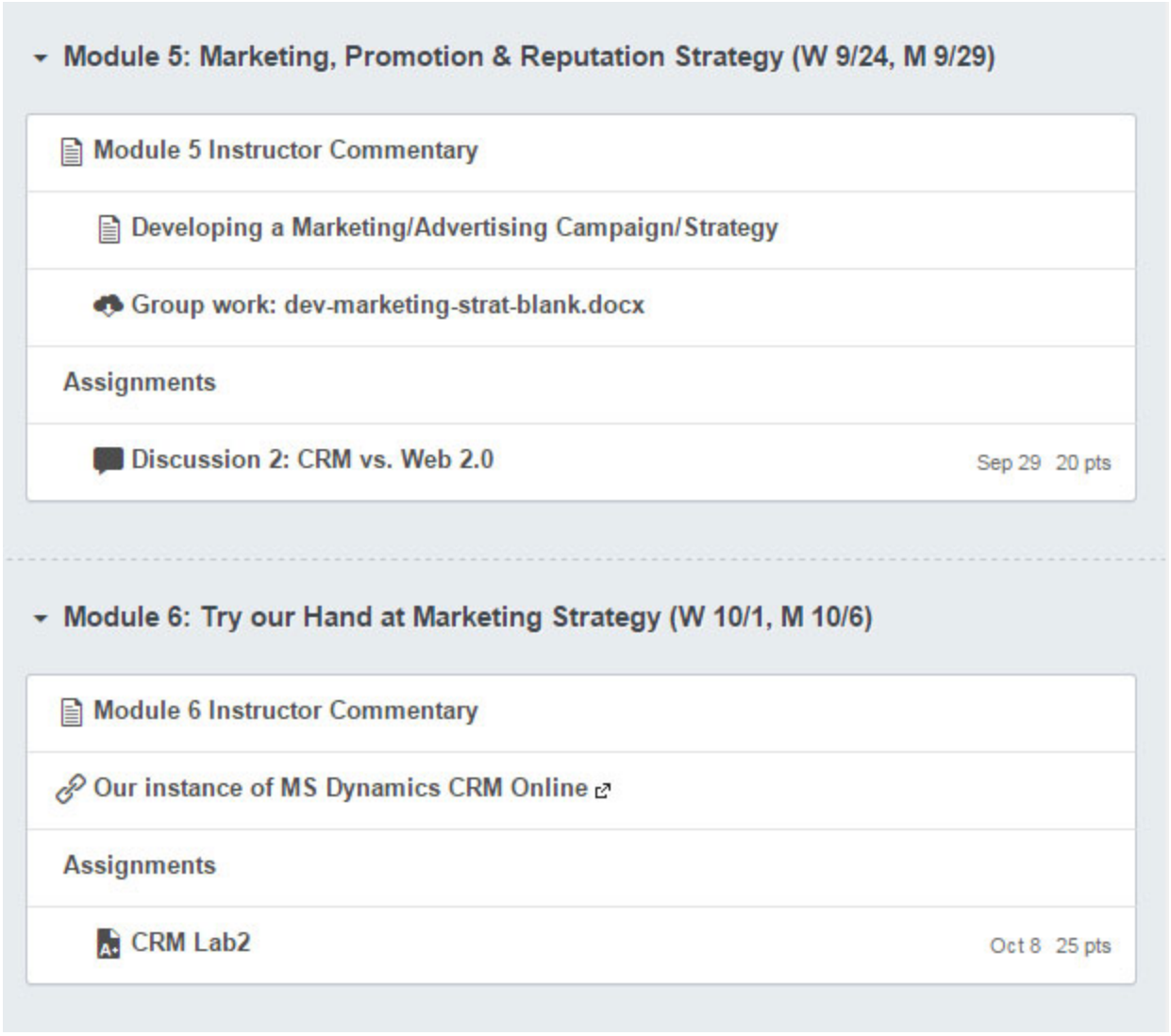

Week 10: E-commerce & Customer Relationship Management (Mar. 9-15)
Week 10 Activities
Reading: Overview of CRM
Video: Dynamics CRM Demo
Example: CRM at Zappos
Reading: E-commerce
Chap005.ppt
Practice Questions Chap 005
XLModule_F-Building a Web Page with HTML.pdf
Practice Questions: Module F
Assignment: E-commerce
Week 10.pptx
Week 11: GP Inventory and Fixed Asset Management (Mar. 16-22)
Week 11 Activities
Reading: Inventory and Fixed Asset Control
Video: Inventory Control
Video: PO Generation in GP
Video: Fixed Assets in GP
GP Lab: Lab 5 - Inventory and Fixed Assets.pdf
GP Lab 5 Results
Quiz 4
Week 11.pptx

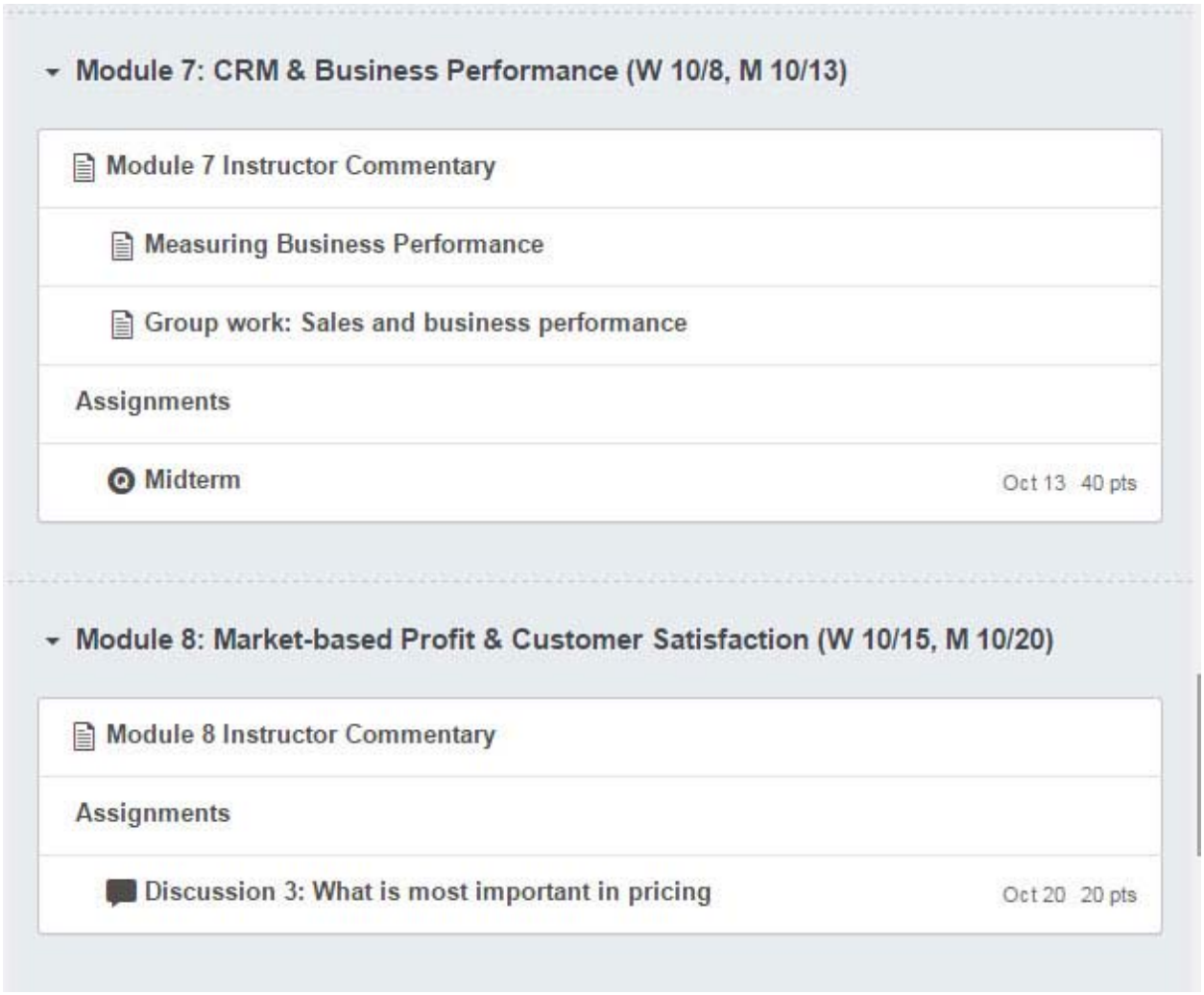

Week 12: Supply Chain Management, Purchasing & Accounts Payable (Mar. 23-29)
Week 12 Activities
Reading: Supply Chain Management
Reading: Purchasing and Accounts Payable
Video: Vendors, Payables Invoices, and Checks
Lab: GP Lab 6 - Purchasing and AP.pdf
GP Lab 6 Results
Reading: Third-Party Products for GP
ISVbrochures.zip
Assignment: Dynamics GP Third-Party Vendors Report
Week 12.pptx
Week 13: Human Resources Management (Mar. 30 - Apr. 5)
Week 13 Activities
Reading: HR Functions
Video: HR and Payroll - Part 1
Video: HR and Payroll - Part 2
Excel Dashboards.pdf
Lab: GP Lab 7 - HR.pdf
GP Lab 7 Results
Assignment: Organizational Chart
Week 13.pptx

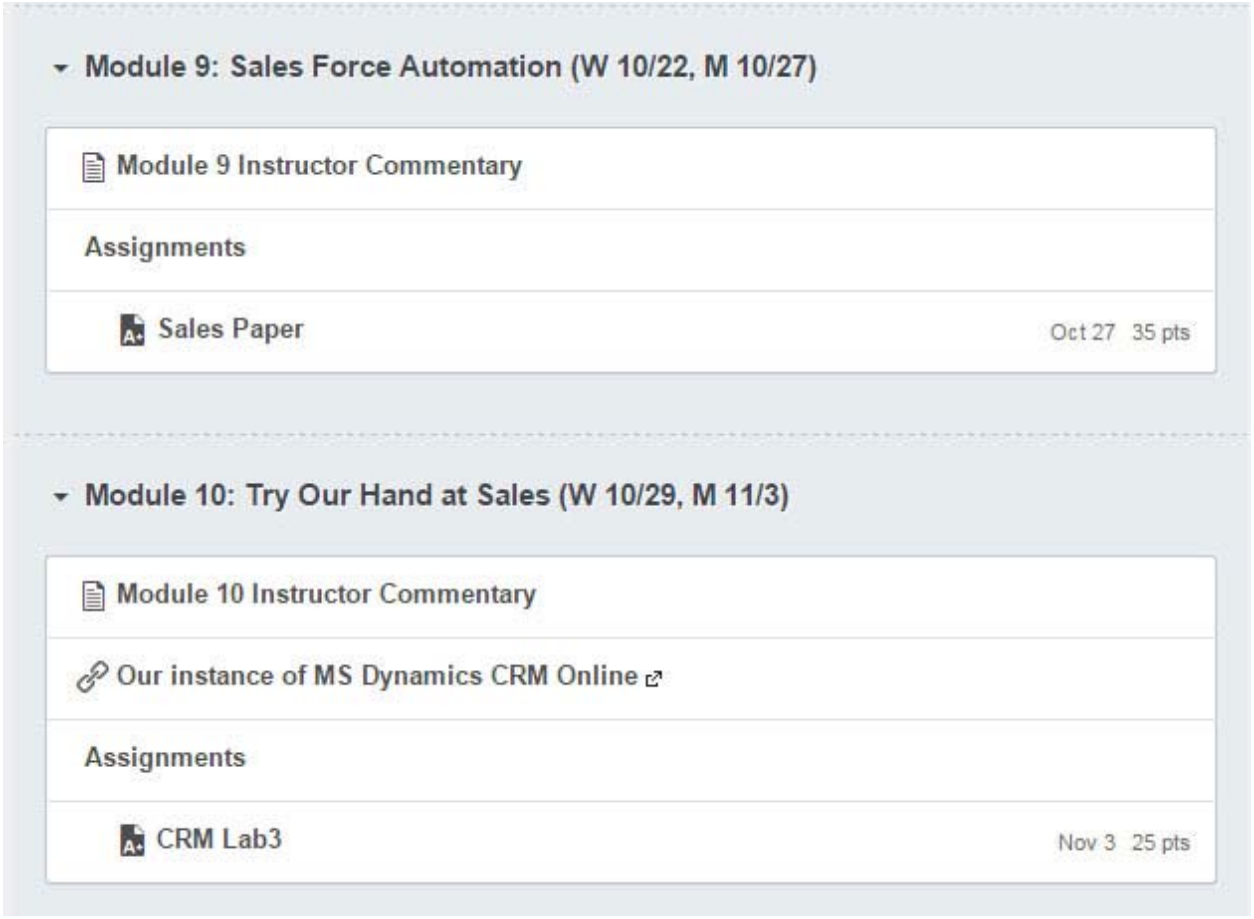
Appendix C


Module 1: CRM Context and Definition (M 8/25, W 8/27)
Module 1 Instructor Commentary
CRM software providers
Module 1 notes from class
Group exercise merged
Assignments
CRM Case Study
Aug 31 30 pts
Module 2: CRM Strategy and Tools (W 9/3, M 9/8)
Completion of module 1
Module 2 Instructor Commentary
Module 2 Study (video): Intro & MS Dynamics CRM Overview
fieldlist-v3.xlsx (for use in class)
case-for-crm.pdf
Assignments
Discussion 1: Case for CRM
Sep 8 20 pts


Module 3: CRM and Customer Service (W 9/10, M 9/15)
Module 3 Instructor Commentary
Module 3 Instructor Commentary Part 2
dahlberg.pdf
Customer Service In Class Excercise
10-golden-rules-customer-service-grocery.pdf
Customer Service In Class Exercise 2
Assignments
Customer Relationship Management (CRM) Overview
Sep 15 35 pts
Module 4: Try Our Hand Customer Service (W 9/17, M 9/22)
Module 4 Instructor Commentary
Our instance of MS Dynamics CRM Online
Assignments
CRM Lab1
Sep 24 25 pts


Module 5: Marketing, Promotion & Reputation Strategy (W 9/24, M 9/29)
Module 5 Instructor Commentary
Developing a Marketing/Advertising Campaign/Strategy
Group work: dev-marketing-strat-blank.docx
Assignments
Discussion 2: CRM vs. Web 2.0
Sep 29 20 pts
Module 6: Try our Hand at Marketing Strategy (W 10/1, M 10/6)
Module 6 Instructor Commentary
Our instance of MS Dynamics CRM Online
Assignments
CRM Lab2
Oct 8 25 pts


Module 7: CRM & Business Performance (W 10/8, M 10/13)
Module 7 Instructor Commentary
Measuring Business Performance
Group work: Sales and business performance
Assignments
Midterm
Oct 13 40 pts
Module 8: Market-based Profit & Customer Satisfaction (W 10/15, M 10/20)
Module 8 Instructor Commentary
Assignments
Discussion 3: What is most important in pricing
Oct 20 20 pts


Module 9: Sales Force Automation (W 10/22, M 10/27)
Module 9 Instructor Commentary
Assignments
Sales Paper
Oct 27 35 pts
Module 10: Try Our Hand at Sales (W 10/29, M 11/3)
Module 10 Instructor Commentary
Our instance of MS Dynamics CRM Online
Assignments
CRM Lab3
Nov 3 25 pts

Module 11: Analysis: Firm, Functional & Customer Level (W 11/5, M 11/10, W 11/12)

- Module 11 Instructor Commentary
  - Group work: Assessment and analysis plan
- Assignments
  - Analysis Task — Nov 17 35 pts

Module 12: Analysis discussion continued and Try Our Hand at Analysis (M 11/17, W 11/19)

- Group work: Assessment and analysis plan
- Module 12 Instructor Commentary
- Our instance of MS Dynamics CRM Online
- Assignments
  - CRM Lab4 — Nov 23 25 pts

Module 13: Planning your CRM Region (M 12/1, W 12/3)

- Module 13 Instructor Commentary
  - Group work: Training plan
  - Group work: Customer service plan

Module 14: Managing your CRM (M 12/8 GUEST SPEAKER, W 12/10)

- Module 14 Instructor Commentary
  - Guest speaker: Sven Menssen 12/8
  - Group work: Putting it all together
- Assignments
  - Individual CRM Plan — Dec 17 — 40 pts

Final: Group Presentations (W 12/17)

- Group CRM Assessment Presentation and Report — Dec 17 — 75 pts

Appendix D

TECH 4200 Technology Marketing and Distribution Course Survey

As you have been a part of a course which is one of two offered for our pilot of the Microsoft Academic Alliance Student Certification at Utah Valley University, we are requesting that you take a few minutes to answer the below open ended questions so we can continue to improve our future offerings.

Course description: TECH 4200 Technology Marketing and Distribution

Teaches management of marketing, forecasting, and distribution within technical fields. Focuses on market-based profit and customer satisfaction. Applies concepts to technology planning and innovation. Prepares for national distribution certifications.

Do you feel this course met the course expectations listed directly above? Explain.

Do you feel the incorporation of the use of MS Dynamcis CRM was beneficial to this course? Explain.

Do you feel a MS Dynamics Student Certificate is something we should continue to pursue in the Technology Management department? Explain.

What changes would you recommend we make to this course for future terms?

Thank you again for your time in responding to above. Your information will place an important role in our assessment of both this course and MS Dynamics CRM inside Technology Management.

Biographical Notes

David W. Johnson is currently an adjunct Professor in the Technology Management Department in the College of Technology & Computing at Utah Valley University (UVU). He received his Ph.D. Degree from The University of Michigan, Ann Arbor, in Industrial Engineering and Business. Dr. Johnson recently retired from being a full-time professor at UVU where he was instrumental in developing the Microsoft Dynamics Student Certificate Program. He also taught previously at Florida Gulf Coast University and Western Michigan University prior to coming to UVU. In addition, he has twenty-five years of industry experience in technology and management. He has published numerous articles in academic journals and conference proceedings.

Anne Arendt is currently an Assistant Professor and Assistant Chair in the Technology Management Department in the College of Technology & Computing at Utah Valley University (UVU). She received her Ed.D. from Utah State University in Logan, Utah in Higher Education Leadership. Dr. Arendt has been a faculty at UVU for five years and served roles administrative in both Marketing and Communications and Distance Education at the same institution for five years prior. She is currently serving as the Vice Chair of the North American Microsoft Dynamics Advisory Council and has been in this role for one year.