

## Course Syllabus and Lesson Plan

RSRS531 Assistive Technology Application 3 (2-2-5)

Academic Year 2018

**Course Title:** Assistive Technology Application

**Course Code:** RSRS531

**Duration:** First semester

**Pre-Requisite:** No

**Course Homepage:** [http://www.rs.mahidol.ac.th/academic/master\\_degree-rehabilitation.html](http://www.rs.mahidol.ac.th/academic/master_degree-rehabilitation.html)

### Course Description:

Devices and assistive technology for persons with disabilities; seating system and assistive technology; control interface for assistive technology; adaptation or selection of computer devices suitable for persons with disabilities; augmentative and alternative communication systems; technologies that enable mobility; technologies that aid manipulation and control of the environment; technologies that aid sensory of persons with visual or auditory impairment; technology for people with learning disabilities, mental and behavioral disorders, and intellectual disabilities; assistive technology in the context of learning and the context of work; physical environment adaptation and information management that would be accessible and beneficial for persons with disabilities, assistive technology services in organizations

อุปกรณ์เทคโนโลยีสิ่งอำนวยความสะดวกสำหรับคนพิการ ระบบการจัดทำนั้งกับเทคโนโลยีสิ่งอำนวยความสะดวก ตัวเชื่อมประสานที่ใช้ในการควบคุมเทคโนโลยีสิ่งอำนวยความสะดวก การปรับหรือเลือกใช้ อุปกรณ์คอมพิวเตอร์ให้เหมาะสมกับคนพิการ ระบบการสื่อสารทางเลือก เทคโนโลยีที่ช่วยการเคลื่อนที่ เทคโนโลยีที่ช่วยจัดการและควบคุมสภาพแวดล้อม เทคโนโลยีที่ช่วยการรับรู้ของคนพิการทางการเห็นหรือการได้ยิน เทคโนโลยีสำหรับผู้พิการทางการเรียนรู้ จิตใจ พฤติกรรมและสติปัญญา เทคโนโลยีสิ่งอำนวยความสะดวกในบริบทของการเรียนและในบริบทของการทำงาน การปรับสภาพแวดล้อมทางกายภาพและการจัดทำข้อมูลข่าวสารให้คนพิการเข้าถึงและใช้ประโยชน์ได้ การจัดบริการเทคโนโลยีสิ่งอำนวยความสะดวกในหน่วยงาน

**Course Objectives:** At the end of this course, the students will be able to

1. Explain types, basic components, features, purposes, cautions, installations and use of assistive technology for persons with disabilities.

2. Select, adapt, install, advice, demonstrate and do a training on how to use assistive technology device for persons with disabilities.
3. Design and develop simple assistive technology devices for persons with disabilities
4. Apply knowledge and practice on assistive technology to rehabilitation services

**Course schedule:**

week	Topic	Teaching Activities / Media	Lecturer
1	- Introductions & Syllabus overview /classroom activities and grading policy - Assistive Technology and disabilities	-lecture -Discussion -Practice (PPT, Video Clip, Handout)	Dr. Suchittra Kheowsri
2	-Framework for assistive technology assessment	-lecture -Discussion Case-study (PPT, Video Clip)	Dr. Suchittra Kheowsri,
3	Assistive technology for people with visual impairment	-Lecture -Demonstration -Practice (PPT, Video clip, AT devices)	Dr. Wiraman Niyompol
4	Physical environment adaptation	-Lecture -Demonstration (PPT, AT devices, real place)	Lect. Tham Jattunam
5	Augmentative and Alternative Communication	-Lecture -Demonstration -Practice -Assignment & report (PPT, Video clip, AT devices)	Dr. Suchittra Kheowsri
6	-Control interface for assistive technology / -Technologies that aid	-Lecture -Discussion -Assignment & report	Dr. Suchittra Kheowsri

week	Topic	Teaching Activities / Media	Lecturer
	manipulation and control of the environment	(PPT, Video clip, AT devices)	
7	Physical disability	-Lecture -Discussion -Assignment & report (PPT, Video clip, AT devices)	Assist.Prof. Dr. Warin Kriyakiarana,
8	Seating system and Technologies that enable mobility	- Lecture -Demonstration (AT devices)	*Guest lecturer (Study At Sirindhorn National Medical Rehabilitation Institute)
9	Technologies that aid sensory of persons with auditory impairment	-Lecture -Discussion -Demonstration (PPT, AT devices)	*Guest lecturer: Assoc.prof Krisna Lertsukprasert (study at Department of Communication Sciences and Disorders, Faculty of Medicine Ramathibodi Hospital)
10	Technology for people with learning disabilities, mental and behavioral disorders, and intellectual disabilities	-Lecture -Case-study -Assignment & report (PPT, Video clip, อุปกรณ์ AT)	Dr.Suchittra Kheowsri,
11	Adaptation or selection of computer devices for persons with disabilities	-Lecture -Practice - Assignment & report (PPT, Video clip, AT devices)	Dr. Suchittra Kheowsri,
12	Information management persons with disabilities	-Lecture -Practice (PPT, Video clip)	Dr.Paranee Visuttipan.

week	Topic	Teaching Activities / Media	Lecturer
13	Assistive technology in the context of learning and the context of work	-Lecture -Discussion -Demonstration (PPT, Video clip, AT devices)	Dr. Suchittra Kheowsri
14	-Assistive technology services in organizations	Academic excursion: 1) Excellent Center in Creative Engineering Design and Development, Thammasart University 2) Special Education Center, Nonthaburi	Guest lecturers
15	Student Project Presentation	-Discussion and Critique	Dr. Suchittra Kheowsri,
16	Final examination	-	-

**Teaching Methods:** Lecture, Group study, Assignment and Discussion

**Evaluation of Student Achievement Grading system:**

Course Objectives	Evaluations	Marks	
1. Explain types, basic components, features, purposes, cautions, installations and use of assistive technology for persons with disabilities.	Paper Examination	20	30
	Participation in classroom activities	5	
	Report or Assignment	5	
2. Select, adapt, install, advice, demonstrate and do a training on how to use assistive technology device for persons with disabilities.	Practice	15	30
	Participation in classroom activities	5	
	Report or Assignment	10	

3. Design and develop simple assistive technology devices for persons with disabilities	Presentation AT Project work	20	20
4. Apply knowledge and practice on assistive technology to rehabilitation services.	Paper Examination	10	20
	Report or Assignment	10	
<b>Total</b>			100

A = 85-100 Marks

B+ = 80-84 Marks

B = 75-79 Marks

C+ = 70-74 Marks

C = 65-69 Marks

D+ = 60-64 Marks

D = 50-59 Marks

F &lt; 50 Marks

**Course Evaluation:** Questionnaire about contents, teaching processes, examinations and instructor performance.

### Required Textbook

Bryant, D.P., & Bryant B.R. (2012). Assistive Technology for people with Disabilities.

2<sup>nd</sup> Ed. Boston: Pearson.

Cook, A.M. & Polgar, J. M. (2015). Assistive Technologies: Principles and Practice. New York: Mosby Elsevier.

Cook, A.M., Polgar, J.M. (2012). Essentials of assistive technologies. St. Louis: Mosby Elsevier.

Emily, C. B. (2017). Assistive technology . Los Angeles : Sage Publications.

### Other References

- Follow the instruction of lecture in each topic

### Course Coordinators

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